

CRAC

The Career Development Organisation

Provision of professional doctorates in English HE institutions

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Executive summary

Aims

HEFCE has commissioned new research into the provision of professional doctorate (PD) programmes. The key objective was to depict the current landscape of PD provision by English higher education institutions (HEIs). More specific aims were to:

- Examine existing PD provision and understand models used in PD programme delivery to contribute to the development of a more robust typology;
- Consider HEIs' strategies for PD provision and how this might change in future amidst an evolving postgraduate research context;
- Explore the skills and attributes that PD programmes seek to develop in response to employers' and professional demands, and how these are delivered;
- Explore the impacts of PD programmes on graduates, their employers and professions, and provider institutions.

Approach

In order to obtain the variety of perspectives sought, the research was designed as a mixed-methods study, with activities in three broad strands: desk research, a survey of institutions, and in-depth qualitative research with a stratified sample of institutions and programmes supported by stakeholder inputs. A literature review was used to synthesise established knowledge, while 63 institutional survey responses provided perspectives on strategies and an indication of the programmes offered and current issues. This was extended through desk research to obtain coverage of programmes at all other research-active English HEIs. Interviews with over 30 academic staff and a similar number of current PD candidates and alumni provided deeper insights into current models, delivery and impact.

Characteristics of PDs

Broadly confirming the established literature, we found professional doctorates to be distinctive (from other doctoral provision, particularly the PhD) on the basis of their:

- **Purpose** – PDs aim to develop the capacity to make a significant original contribution to professional practice through research. They are targeted at experienced professionals and practitioners working in a professional context and, therefore, are a research-based element of professional training and/or development of practitioners.
- **Research focus** – The research within a PD directly relates to, and is rooted in, the professional practice of the candidate, and its output should not only contribute to knowledge but have a significant impact on professional practice.
- **Structure** – PD programmes are more structured than many PhD programmes, with taught components as well as supervised and cohort-based experiences. However,

this distinction is reducing with the development of other structured doctoral programmes, especially collaborative and cohort-based doctoral training programmes.

We also found a number of programmes which have commonly been referred to as professional doctorates that, to varying extents, did not meet these criteria. Of these, there is increasing recognition that the Engineering Doctorate (EngD) is not a true professional doctorate – it is not targeted at experienced professionals and is potentially better described as an industrially-focussed or –located PhD – so this was excluded from the study.

Range and extent of provision

In the last five years there has been continued growth in the number of English HEIs providing PD programmes and modest growth in the total number of programmes. The main growth has been in post-1992 institutions and this seems likely to continue on the basis of the stated expectations of institutions responding to the survey.

Numerically, provision is dominantly in four ‘main’ subject areas (education, business, psychology and health, and social care). There is growth in these areas in the form of new more specialised programmes alongside established ‘brands’ such as the EdD, DBA and DClinPsy.

There is also growth as the PD model proliferates across a wide range of new subject areas, including applied areas within the social sciences, science and technology, and the arts, as well as in professional areas that span traditional academic disciplines, such as forensic science, public administration and security.

PD cohorts tend to be small for most programmes, particularly those which are in new areas. A small number of programmes in established areas had over 20 new enrolments in academic year 2013/14, but most were much smaller and many had no enrolments in 2013/14. There was evidence for a decline in enrolments to programmes in the health sector in particular, in many cases relating to increasingly constrained public sector funding.

Institutional supply and employer demand

Although traditionally perceived as an employer-driven qualification, overall, the demand for professional doctorate-qualified staff from employers seems relatively weak in many areas, reflecting uncertainty over the extent to which employers currently see the value of PD-qualified staff.

Weak employer demand results in high proportions of PD candidates, in many subject areas including education and business, being self-funded. Demand is driven by candidates themselves, some of whom are motivated by the prospect of career change rather than progression with their current employer and may participate without the knowledge or support of their employer.

The main exceptions to this picture are in clinical psychology where the National Health Service funds programmes as an entry route and licence to practise, and to some extent

higher education (HE) itself where institutions fund their own staff to participate in their programmes.

Overt employer support for a candidate's participation in a PD programme, including practical involvement such as provision of a supervisor and paying fees, is increasingly rare, and entitlements to study leave are decreasing.

Although the demand from employers seems weak in most sectors, most institutions are anticipating modest growth in their provision and participation.

For many programmes, increasing competition amongst institutions for the modest UK demand that exists may lead to a need for international participation to ensure sustainability, although some programmes were originally designed in response to local needs and address UK professional settings.

In the face of declining enrolments on existing programmes, some institutions are responding by launching related programmes or programmes in new areas to try to sustain their total participation levels.

Overall, development of PD provision is not strongly strategic by most institutions, and is somewhat opportunistic, leveraging the considerable autonomy that institutions afford to departmental level in terms of new programme development.

Study experiences, impact and challenges

Although PD programme structures vary in detail, the two-stage approach with a taught first stage and formal transition to a research stage is common. Requirements for admission to programmes, and for submission and completion, show some variation as institutions design programmes to respond to particular needs.

The taught aspects of PD programmes contain doctoral- and research-focused content, including research-specific skills (including research methods) and professional development (transferable skills as well as a focus on professionalism and the development of reflective practice). Some of this is similar to the content of structured, cohort-based PhD programmes, but there is rarely integration of the two.

Where cohorts are small, the teaching of taught modules may not be cost-effective or viable, particularly where delivery is face-to-face. Together with the involvement of more international candidates, this could result in the taught element of programmes increasingly being delivered through distance or online methods. Some programmes only offer this mode of study. In other cases, there may not be programme cohorts every year.

Candidates report that the cohort-based nature of PD study is a highlight of their experience and valuable in both enhancing learning and sustaining commitment to their programme during a pressured professional life. On the other hand, most of the programme is conducted outside the HE research environment and in many cases there is little integration of PD candidates within it.

There can be challenges for institutions in providing sufficient supervision for the specialist research projects undertaken by PDs, and the examination of them. Some current candidates commonly report having a single supervisor, especially in the first stage of their PD; contrary to the trend for PhD supervision and QAA guidance. There are additional supervisory challenges as greater numbers of PD candidates study remotely.

Reported impacts by a sample of PD candidates and alumni were very positive, reflecting the personal career and self-development motivations of many PD candidates, as well as strong development of more reflective practice and evidence-based professionalism valued by some employers.

Perceptions of quality of the PD remain an issue, particularly within HE. However, it can be argued that PD candidates undertake greater learning than PhD researchers as they tend to have less support in the environment in which they conduct their research. Their research is also expected to have an impact on professional practice, not solely to make a contribution to knowledge.

Administrative data reported by institutions to the Higher Education Statistics Agency (HESA), published as the Student Record, do not identify professional doctorate candidates. Thus, use of existing data does not lead to an accurate depiction of PD provision by institutions.

Additionally, due to the discipline- and institution-driven nature of PD development, and the lack of a systematic definition of a PD, there is an increasing proliferation and inconsistency in programme titles and awards, which contributes to data collection difficulties.

Recommendations

Strategy and sustainability

- UK professional sector bodies and institutions could benefit from developing a more strategic basis for PD provision, while not losing sight of the valuable autonomy granted to academic staff to consider and propose PD programmes in response to perceived demand.
- Development of new programmes which coalesce around established PD “brands” (such as the DBA and EdD) could help to raise the profile of PD programmes, both nationally and internationally, in the eyes of employers and prospective candidates.
- Engagement with employers and servicing new markets are strong institutional motivations for PD provision. Institutions should recognise and more specifically articulate how their PD provision contributes to their strategic priorities such as research impact, employer engagement and societal benefit.
- Given the growing proportion of self-funded PD candidates, institutions should consider the extent to which their promotion of PD programmes reflects personal career-related and self-development motivations, in addition to historic employer needs for upskilling.

Quality and reputation

- Institutions and the HE sector generally need to be more consistent in promoting the PD as equivalent to a PhD qualification but different in terms of its target audience

and aspects of its delivery, highlighting the importance of the research context and the impact requirements of a PD on professional practice.

- The coalescence of new PD programmes around established major PD “brands” could be used to increase the general profile of the professional doctorate as a programme of study and qualification.
- More consistent credit allocation to elements of PD programmes, particularly the taught elements, would enhance the sector’s understanding of the structure and value of learning within a PD.

Delivery

- Institutions should consider the extent to which PD training could be integrated with, or take advantage of, structured PhD training programmes, such as collaborative doctoral training, to achieve efficiencies.
- Institutions are recommended to ensure that they provide appropriate resources and expertise to ensure good supervision as outlined in the QAA Quality Code (including appointment of more than one supervisor for a PD candidate).
- Institutions might consider the extent to which they could collaborate in the delivery of common aspects of PD programmes within particular disciplines, such as providing more generic training in research methods and skills, in order to increase the sustainability of teaching where institutional cohorts are very small.

Standardisation and administrative data

- Institutions, and the sector generally, should work to rationalise the complexity and heterogeneity of programme titles, awards and nomenclature, as this is contributing to the weak profile of the PD.
- The PD is distinct from the PhD; better understanding of the profile of these qualifications and their respective candidates would result from more defined, standardised and systematic collection and reporting of data through the HESA Student Record.

Further research

- Perceptions of inequivalence persist in the academic environment, which can only be explored through a primary investigation of PD and PhD research outputs so as to provide robust measures of the quality of PD research in comparison with PhD research. This should not rely on individuals’ perceptions of quality.
- Although the PD is grounded in professional practice, there is little robust evidence of impact on professional practice and changes in the workplace. More research could usefully be done to explore these impacts.

1. Introduction and context

The Higher Education Funding Council for England (HEFCE) commissioned CRAC (the Careers Research & Advisory Centre) and its project team to undertake research into the provision of professional doctorate programmes by English higher education institutions (HEIs). HEFCE wished to understand better this aspect of vocational higher education and how professional doctorates (PD) contribute to the development of research-level skills for the labour market. This report is the outcome of the research undertaken.

1.1. Context

Until the early 1990s, the PhD (DPhil in some universities) was the main doctoral research qualification in the UK (Quality Assurance Agency, QAA, 2015). Since that time the form of the UK doctorate has diversified significantly, leading to a range of differently structured degrees. This diversification has occurred partly to accommodate the needs of an increasingly diverse student population and the evolving research environment, but also in response to the needs of different professions, with the emergence of a range of 'professional' and 'practice-based' doctorates (see section 1.2).

More recently, many PhD/DPhil doctoral programmes have also become more structured as a result of Research Council initiatives, the Bologna Process (European Universities Association, EUA, 2005) and the implementation of the recommendations of '*SET for Success*' (Roberts, 2002), with greater emphasis on the development of research-specific and transferable skills, in addition to conducting original research. This adds complexity to the landscape of doctoral research programme provision. Although the key distinctiveness for all doctorates is to make an original contribution to knowledge, institutions generally have different institutional regulations and codes of practice for the award of professional doctorate and PhD qualifications.

As will be seen, many professional doctorates have been created or co-created in specific professional contexts, in many cases initiated by an individual HEI. As a consequence, a proliferation of different structures, titles and nomenclature has emerged, including some professional doctorates as 'licences to practise'. While this demonstrates the flexibility of the higher education (HE) sector in response to diverse professional and student needs, and recognises institutional autonomy, it poses difficulties in reporting, recording and maintaining standards. Some UK universities have reported that they anticipate greater future interest in PD-type doctorate models from potential candidates as they expect more students to delay postgraduate study to later career stages and to carry out research that is potentially more directly related to their employment, as a result of greater accumulation of undergraduate student debt (Mellors-Bourne et al., 2014a).

This proliferation of UK professional doctoral qualifications poses risk for the reputation of the UK doctorate. Outside the UK, with a few exceptions, PDs are generally not widely understood or valued. One exception is the USA which has a longer history of professional doctoral programmes, although the models for PDs vary considerably, from research-based programmes similar to the UK model through to solely taught programmes (including through distance learning), which adds to the misunderstanding of

PDs. Professional doctorates also are becoming increasingly prominent in Australia. It is important – in a global education, research and employment environment, where qualification comparability is needed to promote mobility and strengthen career opportunities, and for recruitment of international doctoral researchers that are critical to UK institutions – that the UK doctorate in all its forms is seen as a world-class research qualification.

In the QAA's *Doctoral degree characteristics statement* (QAA, 2015), professional and practice-based doctorates are considered together, noting that individual institutions decide how a qualification should be described. This grouping together of professional and practice-related doctorates is to some extent an acknowledgement of the complexity of the landscape. There is no clear taxonomy that defines and distinguishes the characteristics of PhD, professional and practice-based doctorates, and this has implications for the quality assurance of doctoral programmes.

It is therefore timely that HEFCE seeks to understand more about professional doctorate programmes, their characteristics and position in HE, and the impact they have on participants and in the labour market.

1.2. The development of professional doctorates

Professional doctorates have developed in the UK in response to a number of challenges and opportunities. In the context of a competitive knowledge economy, professional doctorate programmes have been launched to respond to demands from industry, professional bodies and professionals for more relevant forms of learning, skills and qualifications (Rolfe and Davies, 2009). In a report for the United Kingdom Council of Graduate Education (UKCGE), Hoddell (2002, p.7) argued that PDs were developed as an alternative form of study at doctoral level, reflecting the fact that the traditional PhD was not always considered to fulfil the needs of industry, commerce or the public sector. Similarly, the QAA (QAA, 2011, p.14) reported that professional and practice-based (or practitioner) doctoral qualifications have evolved in response to the needs of professions and/or the career progression of professionals working in different fields. According to Bareham et al. (2000, p.401), since the early 1990s universities in the UK have introduced work-based or professional doctorates to '*represent the coming of age of work-based learning within the higher education curriculum*'. Armsby (2012, p.135) also noted that a variety of different PDs have been developed to accommodate various niche markets.

The first degree scheme in England to be called a professional doctorate was the Doctorate in Clinical Psychology (DClinPsy) which began in 1989 (Scott et al., 2004). In 1992 the first PD in Education (EdD) in England started at the University of Bristol and, in the same year, the first PDs in Engineering (EngD) started at the University of Warwick, University of Manchester and University of Wales.

Bourner et al. (2001) reported that 109 PD programmes were offered in 19 subjects in England at the start of 1998, with some universities offering only one PD, some offering several awards within a single professional field, and others several different types of PDs. Of the 109 PDs programmes they identified, almost 80% were accounted for within the five subject areas of education, psychology, medicine, business administration and

engineering (ibid, p.68). By end of the 1990s, PDs could be found in over three-quarters of pre-1992 universities and a third of post-1992 universities in the UK. At that time only one of the post-1992 universities offered PDs in three or more different subject areas, whereas 15 of the pre-1992 universities did so (ibid, pp.65-67).

The number offered has continued to increase. In a survey of UK HEIs in 2009, to which 71 institutions responded, the number of PD programmes offered had increased, with a total of 7882 registered candidates listed as studying on 308 programmes (Brown and Cooke, 2010, p.9).

Scourfield (2010, p.569) has suggested that a PD in education (EdD) is the UK's most common professional doctorate. Costley (2014, p.1) has argued that all subjects, with the exception of medicine, have seen an increase in both numbers of programmes offered by institutions and candidate numbers. Our new study will contribute further insights into the evolution of professional doctorate provision in England.

2. Aims, methodology and definitions

2.1. Research aims and approach

The key objective of this project was to depict the landscape of professional doctorate (PD) provision by English HEIs, by obtaining a variety of perspectives from institutions, PD researchers and other stakeholders including employers. More specific aims included to:

- Examine existing PD provision and the models adopted to deliver this provision, together with how and why it has evolved in particular ways, and potentially contribute to development of a more robust typology;
- Consider how provision by HEIs is likely to change in future, and understand how PD provision relates to other doctoral and postgraduate programmes provided;
- Explore the skills and attributes that PD programmes seek to develop, in response to employers' and professional demands, and how components of PD programmes support that development;
- Explore the potential and realised impacts of PD programmes on PD graduates, employers/professions and provider institutions;
- Investigate the strategic basis for provision and the contribution that PD curricula and programmes make to addressing advanced skills gaps and employer needs;
- Understand how current PD participants are funded and how well current models work for the participant and employer.

In order to obtain the variety of perspectives sought, the research was designed as a mixed-methods study, with a series of phased activities in three broad strands. These were desk research, a survey of institutions and in-depth qualitative research based on a stratified sample of institutions and programmes, supported by a range of stakeholder inputs.

2.2. Desk-based research with existing information

2.2.1. Literature review

A concise literature review was undertaken in order to synthesis established knowledge for the benefit of the research team and to provide key inputs in framing the research and developing research instruments.

Electronic searching, which included use of sources such as ERIC, BEI, PsycINFO and Education Abstracts, initially identified over 500,000 references for 'Professional Doctorate'. A variety of additional terms relating to the themes of the project were added to refine searches in order to narrow down the selection, resulting in approximately 200 titles and abstracts which were selected and read. Some articles were then screened out on the basis of the abstract, leaving 57 articles/reports which were covered in this review. Of the articles/reports reviewed, approximately half related to empirical studies and half to

literature/theoretical work. With the exception of three articles, all of them related specifically to PDs within UK HEIs; the remaining three articles were comparative studies of PDs in the UK and elsewhere. It should be noted that within the articles, generally, it was often difficult to identify information relating purely to English PDs as most made reference to the UK context. Additional literature was added from a variety of other sources including the websites of HEIs and other organisations. The review involved noting salient points from the literature sources in relation to the landscape, characteristics and demand for PDs in English/UK HE. The findings from the literature review are used in different sections of this report.

2.2.2. Higher Education Statistics Agency (HESA) data review

With valued assistance from HEFCE Analytical Services, we explored how professional doctorates are recorded in the HESA Student Record, focusing on the 2013/14 data return. All records with a course aim of a doctorate degree were collated, together with those with course aims of a Masters degree that meets the criteria for a research-based higher degree and those for a research-based higher degree where the student may ultimately study at either doctorate or Masters level.

The course title (CTITLE) field was then used to try to identify professional doctorate programmes within this group, as HESA guidance requires institutions to use course titles 'that would be meaningful to a wide range of stakeholders including potential students'. Word searches were used initially to identify courses with titles that included 'PhD', 'DPhil', 'Doctorate of Philosophy' as opposed to 'Prof' or 'Professional' courses. The remainder were manually reviewed to identify professional doctorates through known common PD award titles and variants.

2.3. Survey of English HEIs

2.3.1. Survey methodology

An online survey was developed in order to obtain information in relation to institutions' current PD provision strategies, the extent and form of their PD programmes, their concerns about supply and demand, and their expectations of future trends. In order to ensure one response from each institution, an invitation to participate was sent to known contacts at the level of Pro-Vice Chancellor of Research, Research Director or similar level. They were asked to coordinate a single institutional response via the online survey platform, or to submit their responses through other documents. An additional response template was offered for those able and willing to provide programme-level data on participation trends, and details of entry requirements and programme composition.

The invitations were sent, in June 2015, to named contacts in 120 English HEIs, including all those with research degree awarding powers. It was assumed that some supplementary or additional data could be collected through desk-based research using institutional websites.

2.3.2. Survey responses and coverage

In total, 63 responses were received during June and July 2015 from institutions which responded to the invitations to participate in the survey; this was just over half of the 120 institutions targeted.

Of the 63 survey responses received, 26 were from pre-1992 institutions (including 10 Russell Group members) and 37 from post-1992 institutions. Six of these were considered to be 'specialist' institutions (in terms of being focused on a single specific disciplinary area). These institutions collectively reported that they provided 185 PD programmes, which is over half of the previously reported extent of English PD provision (Brown and Cooke, 2010), so the survey responses are likely to reflect the majority of current provision in England. A list of the institutions that provided responses and/or took part in the in-depth research is provided in Appendix 1.

Additionally, website research was conducted during early August 2015 on the remaining institutions in terms of any PD programmes offered (that were listed on their websites), in order to obtain 100% coverage of English research-active institutions. Search terms used included 'professional doctorate', 'DBA' and 'EdD'.

2.4. In-depth perspectives

The project sought to obtain perspectives from a range of individuals in HEIs, including PD programme leaders, supervisors and current participants, as well as other stakeholders to represent sector and employer views. The rationale of the overall research design was to complement the relatively 'wide' systematic survey of institutions' provision and strategies with in-depth qualitative investigation of practice in a relatively small sample of institutions stratified in an informed way.

2.4.1. Institutional sampling strategy

A stratified sample of institutions and PD programmes was designed on a purposive basis, using knowledge within the research team and desk research, to reflect the range of key characteristics of PD provision within an achievable sample size. Institutional characteristics included the extent and range of PD provision, broad 'type' (including research 'intensiveness') and focus of institution (i.e. 'generalist' or specialist in terms of discipline, or mode of delivery). The selection was also informed by early results from the survey, which gave the opportunity to include an example institution in the process of closing PD programmes, as well as others planning and commencing provision.

The range of programmes investigated was designed to incorporate a wide range of disciplines, including 'established' fields (the EdD in education, DBA in business, DClinPsy in psychology, and programmes in health) as well as 'new' or emerging disciplinary niches.

On this basis a sample of 14 institutions was selected, within which it was aimed to investigate 22 different PD programmes. These included cases where an institution only offered programmes in a single disciplinary area and others where two different programmes were selected from a wider disciplinary range of provision. This targeted sample 'shape' was agreed with the project Steering Group.

Thirteen of the targeted 14 institutions were successfully engaged in the research. These included four pre-1992 institutions (three of which were Russell Group members), eight post-1992 institutions and two disciplinary specialists. A total of 22 existing programmes were investigated, spanning the disciplinary range of PD provision but with some emphasis on the main disciplinary areas (Table 1).

Disciplinary area	Programme/qualification	No. of programmes
Education	Education Doctorate (EdD)	3
Business and administrative studies	Professional Doctorate in Business Administration DBA	3
Psychology/psychotherapy	Clinical Psychology (DClinPsy, DPsych)	3
Health and social care	Healthcare (DProf, and others)	3
	Pharmacy (DPharm)	1
Social sciences	Criminal Justice	1
	Other (DProf)	1
Arts and humanities	Practical Theology (DPracTheol)	1
	Linguistics	1
	Art	1
Other science/technology	Computing	1
	Agriculture	1
	Other	1
Generic/transdisciplinary	DProf	1

Table 1 Professional doctorate programmes within sample, by disciplinary area. (In some cases the award is not stated to avoid identification of the institution)

2.4.2. Informants and perspectives

For each of the targeted programmes in the institutions sampled, a variety of perspectives was sought. The main focus was on programme leaders, academic supervisors and current participants (“candidates”, as the word “student” was deliberately avoided) on the target programmes, together with a selection of alumni. A number of additional perspectives were obtained from senior staff in HEIs involved in doctoral research strategy.

The research was carried out through a combination of face-to-face, group, telephone and Skype interviews. Predictably, it was rare that current PD candidates were physically on an institution’s premises on the day of a visit, but on two occasions a visit was

scheduled when a cohort or group of candidates was present and the opportunity taken to interview them as a group.

In total, 30 interviews were carried out with (21) programme leaders and nine other academic supervisors (in many cases, the programme leader also acted as a supervisor), and seven other senior institutional staff. In terms of those who participated in programmes, 24 current candidates and eight graduates (alumni) were interviewed.

In addition, telephone interviews were held with representatives of a small number of professional and employment bodies relating to the professional sectors of the key PD programmes sampled.

2.5. Definitions and nomenclature

2.5.1. Definitions of professional doctorates

The overarching definition of PDs used in this study, as outlined in the introduction, draws largely from a definition of PDs presented by the UK Council for Graduate Education (UKCGE), as follows:

A programme of advanced study and research which, whilst satisfying university criteria for the award of a doctorate, is designed to meet the specific needs of a professional group external to the university, and which develops the capability of individuals to work within a professional context (UKCGE, 2002, p.62).

Other known definitions of PDs also make specific reference to the contribution to knowledge made by PDs and highlight the significance of research being used to inform professional practice. For example, Smith (2013, p.316) asserted that PDs are concerned with the development of original professional knowledge and/or skills through the use of research methods to inform and influence professional practice. Similarly, McCay (2010, p.2) stated that the “*general aim of PDs is to find novel approaches for integrating academic and professional knowledge*” while Ellis and Lee (2005, p.2) argued that “*application to practice is at the philosophical core of the professional doctorate.*” According to a report by the UK Economic and Social Research Council (ESRC), candidates undertaking a PD are “*expected to make a contribution to both theory and practice, and to develop professional practice through making a contribution to (professional) knowledge*” (ESRC, 2005, p.99). Additionally, Maxwell (2003) asserted that a PD is a vehicle which draws together state-of-the-art professional practice with relevant academic theory, and is applied to the solution of work-based problems, which results in changes within a candidate’s own workplace.

Some PDs are referred to as work-based doctorates. These highlight the significance of practice and can be defined as research degrees where the vehicle for research is a topical and applied issue or problem based in a candidate’s workplace and/or professional practice (Johnson, 2005, p.88). The central principle of work-based doctorates is the fact that they are practitioner-centred and structured through objectives that are identified by the candidate as central to their practice, with the candidate being the main agent of control of their programme (Costley and Lester, 2012, p.260).

Within some definitions, PDs and practice-based doctorates are grouped together; for example, the European University Association (EUA, 2007, p.15) states:

Professional doctorates, or practice related doctorates, are doctorates that focus on embedding research in a reflective manner into... professional practice. They must meet the same core standards as 'traditional' doctorates in order to ensure the same high level of quality.

As well as references to practice-based doctorates focusing on professional practice, they can also refer to doctorates which are obtained in the disciplines of creative and performing arts and design (Hoddell et al., 2002).

Some definitions of PDs also include comparisons between PhDs, PDs and practice-based doctorates. For example, Galvin and Carr (2003, p.294), suggested that a PD is different from a traditional PhD through its aim to prepare 'scholarly professionals' as distinct from 'professional scholars'. Similarly, Lester (2004) considered that practitioner doctorates are more concerned with practice development and change than with pure research, and Powell and Long (2005, p.8) described a PD as "an award at a doctoral level where the field of study is a professional discipline and which is distinguished from the PhD by a title that refers to that profession".

2.5.2. Nomenclature

Due to the variety of PDs available and the various subject areas covered by PDs, issues around nomenclature are complex. A survey into PD awards conducted by the UKCGE in 2005 highlighted the diversity of PDs on offer in the UK and acknowledged the increasing proliferation of titles and limited standardisation of nomenclature of awards (Brown and Cooke, 2010, p.6). Of the 71 HEIs which responded to their survey, the terms 'Doctor of', 'Doctor in', 'Doctorate of', 'Doctorate in', 'Professional Doctorate in', and 'Master of', were found to exist (ibid, p.8). Fell et al. (2011, p.62) also noted that the terms 'practice-led' and 'practice-based' doctorates were both used when referring to PDs.

A particular cause of variation in nomenclature is that the titles of professional and practice-based doctorates normally reflect the subject or field of study of the candidate (QAA, 2011, p.14). Powell and Long (2005) found 51 different PD awards within the UK, with the main areas of study being business administration, clinical psychology, education, engineering and nursing. They noted three broad types of PD title: those naming a specific professional field, such as the Doctorate in Social Work (DSW); those in a specific area, such as the Doctorate on Health and Social Care (DProf in Health and Social Care); and "generic" PDs.

The last of these differ from the majority of PDs in that they are not based in a specific profession or occupational area (Fell et al., 2011). They are typically termed Doctor of Professional Studies (DProf or ProfD) and are sometimes referred to as practitioner doctorates (Lester, 2004) or work-based doctorates (Boud and Tennant, 2006; Costley and Lester, 2012). Generic PDs, which were pioneered by Middlesex University with the aim of attracting people from a wide range of disciplines, focus on producing new knowledge and developing professional practice within the workplace (Fulton et al., 2012). Generic PD programmes are usually open to experienced professionals from all areas of work, including those from new and emerging professions or disciplines.

Within education, Fell et al. (2011) recorded 19 different programme titles leading to the EdD award. Our investigations confirmed this observation, with almost all education PDs leading to the EdD (Education Doctorate) award, but using a wide variety of programme titles including Education Doctorate, Doctorate in (or of) Education, Professional Doctorate in (or of) Education, and in some cases including a detailed suffix (Education Doctorate: Learning and Learning Contexts). In a few cases a more specific award was made (e.g. EdPsyD) that reflected the programme's focus, which in this case could arguably be classified as a psychology programme.

Much the same situation was seen within the business area, with 43 of the 48 programmes in our research leading to the DBA award and most titled using a variety of combinations of a few key words: Doctor or Doctorate or Professional Doctorate in (or of) Business Administration. However, there were also instances of more specific programme titles and awards, including Doctor of Management (DMan), Doctorate in Marketing and Communications (DMC), Doctorate of Professional Practice (DPract), Doctorate in Project Management (DPM), and Doctorate in Public Administration (DPA).

In other areas, the situation was much more varied still. Within psychology and psychotherapy, the most common title was Doctorate in Clinical Psychology (or slight variants of those words) which led to either a DClinPsy or ClinPsyD award, but there was evidence of more than 18 other award titles, some of which were very specific.

Within the health and social care domain, there was no obvious 'most common' programme title or award, with many programmes resulting in a bespoke award, including where a single PD programme could incorporate up to seven specialist pathways each leading to its own award.

Thus our new research shows that the proliferation of awards and titles has continued further. Table 2 demonstrates the variety of PD and award titles currently available within the "main" subject areas of business, education and clinical psychology, showing both the diversity of nomenclature in PD programmes and the additional development of more specialised programmes in these areas. Table 2 is not intended to be inclusive but purely illustrative of the complexity. Programme and award nomenclature within the health and social care area is so varied that it is impossible to summarise in the table. An indication of the diversity of programmes and award titles in other subject areas is given in section 4.3.

Within the current project, when considering which programmes to include within the analysis of professional doctorates, PD programmes were taken to include programmes which had 'professional doctorate' in their title or description and which did not lead to another type of award (i.e. excluding programmes that led to a PhD/DPhil award, even if they were described as 'professional', or 'practice-based' or 'practitioner').

PD programme title	Award abbreviation
Professional Doctorate in Business Administration Doctorate of Business Administration Doctor of Business Administration Doctorate in Business Administration Professional Doctorate in Business Administration Professional Doctorate in Business Management Doctorate in Project Management Doctorate in Management Professional Doctorate in Public Administration	DBA DPM DMan DPA
Doctorate in Clinical Psychology Professional Doctorate in Clinical Psychology Clinical Psychology Doctorate Doctoral Programme in Clinical Psychology Professional Doctorate in Forensic Clinical Psychology DEdCPsy Educational and Child Psychology	DClinPsy, DClinPsych, ClinPsyD ForenClinPsyD DEdCPsy
Doctorate in Education Professional Doctorate in Education Doctorate of Education Doctor of Education Online Doctor of Education – Higher Education EdD Learning and Learning Contexts EdD Language Studies Applied Educational and Child Psychology Doctorate	EdD AppEd & Child PsyD

Table 2. The diverse nature of nomenclature in relation to PD programmes and award titles in business, education and clinical psychology

3. What characterises a professional doctorate?

The PD award sits within the QAA's qualification framework and is covered by the QAA qualifications descriptors for level 8. Although all PDs, in common with PhDs, have a credit value of 540 level 8 credits, difficulties have been reported previously in offering clarity about the nature of the award (Brown and Cooke, 2010). The wide variety of PD programmes offered by different HEIs and for different purposes/audiences has resulted in the development of PDs which are diverse in nature. Wellington and Sikes (2006, p.728) asserted that *"it is useful to conceive of a continuum of PDs to accommodate the diversity in nature, form, content and assessment"*.

This chapter summarises existing knowledge in relation to the characteristics of PD programmes, and additional perspectives from our research where they materially add to the established picture.

3.1. Key characteristics

3.1.1. Existing knowledge

Despite the diversity of PDs, previous authors have identified some key characteristics common to many PD programmes. For example, Hoddell (2002) identified that PDs tend to: include taught elements; be located in a named subject area which is included in the title of the award (e.g. Education); and be concerned with developing knowledge and its application within a professional area. Fell et al. (2011) expanded upon these characteristics to suggest the key features of PDs are such that they:

- Are practice-based rather than institutionally focused;
- Are undertaken by people in work, generally with significant professional experience and expertise;
- Are normally located in the candidate's work context;
- Produce an original contribution to practice and practical knowledge which leads to professional or organisational change;
- Are concerned principally with the production of knowledge from practice, for application back into practice.

Further descriptions of PDs and work-based doctorates have highlighted similar characteristics, particularly in relation to PDs being rooted in the professional practice of the candidate and being concerned with the acquisition of knowledge and research skills to advance or enhance professional practice within a practice setting. Powell and Long (2005, p.7) asserted that a PD has a professional discipline as its field of study, and Fenge (2009, p.166) argued that PDs enable immersion in an area of doctoral research situated in a world of professional practice. Similarly, Tennant (2004) described PDs as linking doctoral education with work-related challenges and questions, suggesting that this situation moves beyond the application of knowledge in practice, to the generation of

knowledge from within the practice milieu itself. Costley and Lester (2012) and Costley (2013) also asserted that PDs are essentially practitioner-driven, with a focus on professional knowledge, and located in a specific professional context rather than in an academic discipline. Costley and Lester (2012, pp.257-258) also suggested that the development of PDs has largely proceeded within specific professional boundaries, which may be either strongly discipline-based (e.g. medicine, psychiatry, psychology), more multidisciplinary or clustered in nature (such as education), or show a mix of both characteristics (business and management).

The QAA asserts that all doctorates are required to develop a contribution to knowledge through original research or the original application of existing knowledge or understanding, and “*in professional and practice-based doctorates the research may be undertaken in the workplace and may have a direct effect on improving the professional practice of individuals and their host organization*” (QAA, 2011, p.7). Intakes of PD candidates tend to be in cohorts where they attend structured sessions together (Hoddell, 2002; Bourner et al., 2001). Thus, PD candidates typically experience learning within a cohort, and the collegiate nature of PD study opens up possibilities for candidate support networks and the sharing of knowledge and expertise (Hoddell, 2002).

Learning or facilitation processes for PDs are reported to involve action learning groups, small group discussions, workshops and master classes. Some programmes may provide forms of learning support such as e-learning, tutorials, peer learning and assessment (QAA, 2011, 15), and many programmes feature elements of distance learning (Butcher and Sieminski, 2006). PD candidates also receive the support of one or more supervisors who advise them throughout their PD programme (Costley, 2013).

It is common for PD candidates to study on a part-time basis with the expectation that they will be also working in industry or a professional organisation (Bourner et al., 2001). However, there are exceptions to this, notably (but not exclusively) in clinical psychology, where many PDs are offered as full-time programmes with a high degree of practical placement and ‘in the field’ training (McCay, 2010).

A further common feature of PDs is that they require the completion of an original piece of research presented as a thesis and examined by an expert in the chosen field (Powell and Long, 2005; Brown and Cooke, 2010).

3.1.2. *New perspectives*

Almost 50 institutional perspectives on what characterises a professional doctorate were obtained through our survey of institutions and interviews with senior staff. While these responses encompassed a wide range of characteristics, they coalesced strongly around a small number of themes, affirming some of the observations in the literature. Collectively they suggested that professional doctorates are distinctive (from other doctoral provision, particularly the PhD) on the basis of their purpose, research focus and structure:

Purpose – PDs aim to develop the capacity to make a significant original contribution to professional practice through research. They are targeted at experienced professionals and practitioners working in a professional context and, therefore, are a research-based element of professional training or development of practitioners (and in some cases are a

specific progression route, including programmes resulting in a 'licence to practise'). Several respondents specifically highlighted development of the ability to reflect critically on professional practice.

Research focus – The research within a PD directly relates to the professional practice of the candidate, being rooted in that profession (as well as the corresponding academic discipline) and the research output should not only be a contribution to knowledge but have significant impact directly on professional practice.

Structure – PD programmes are thought to be more structured than many PhD programmes, specifically including taught components as well as supervised and cohort-based experiences. Several respondents commented that this structural distinction was reducing with the development of 'new' forms of more structured doctoral programmes leading to PhD, especially collaborative and cohort-based doctoral training programmes. Many observed that PD programmes were usually studied part-time, although this alone does not make them distinctive.

Although this relatively succinct summary of views largely reflects the existing literature, it is also useful in highlighting that the structural distinctiveness of the PD may be beginning to decline, as other forms of doctoral provision that are cohort-based are being developed, as well as other part-time delivery models. Another point of interest is in relation to the desired impact of the research. Several respondents stated that the research needed not only to be an original contribution to knowledge (which is the case for the PhD) but **should also have an impact on professional practice** and/or policy. The QAA guidance is somewhat softer ("*successful completion of the degree normally leads to professional and/or organisational change*" (QAA, 2015)). In any discourse on the perceived quality of PDs, a requirement for impact on professional practice could well be seen as distinct and 'above' the requirement of a PhD in terms of its academic contribution.

These potential defining characteristics do not align well with a small number of historically prominent PD programmes. For example, we believe the Engineering Doctorate (EngD) should not be considered a PD as it does not conform to many of these characteristics. It is not designed for experienced professionals and in many cases will focus on an issue or problem for the industrial host (rather than the pre-existing practice of the candidate). The delivery model for EngD is essentially that of a doctorate based physically in an industrial partner and results in a PhD award. Increasingly the sector recognises that the EngD is a part of industrial doctoral training provision and is not a PD programme. For these reasons, we excluded it from the research.

It could be argued that the Doctorate in Clinical Psychology (DClinPsy) similarly does not conform to the requirement for substantial professional experience, as it is positioned as a required preparation for candidates to apply to the Health Professions Council for registration as a Clinical Psychologist (i.e. it forms their 'licence to practise' in the UK, Fell et al., 2011, p.45-48). As such, it does not require substantial professional experience, although providers seek some working experience in psychology. However, its structure is very much that of a PD, albeit studied full-time (as with other full-time PD in a variety of disciplinary areas), so it has been included in the range of PDs in this study.

3.2. Entry requirements and eligibility

3.2.1. Existing knowledge

The minimum entry requirement for most PD programmes has previously been reported to be a Master's degree within the field of study (Bourner et al., 2001; McCay, 2010). Scott et al. (2004) found that entry requirements for PD programmes in the UK matched those for PhDs and in most cases exceeded them. McCay (2010, p.4) noted that if a candidate held a Master's level qualification that was considered to relate directly to the field of doctoral study, they could be granted an exemption from some of the taught material and could include existing Master's level credits as part of their doctoral study. In the case of accredited prior learning, however, to achieve doctoral status a minimum of 480 credits at D level (level 8), including the research element, must be studied, according to Barnard (2011, p.265).

Authors have also noted that in most cases professional working experience is a prerequisite for PD study, which could be 'substantial' professional working experience for some programmes (Costley and Lester, 2012) while others specified experience ranging from six months to three years (McCay, 2010).

3.2.2. New perspectives

Responses to our institutional survey revealed that entry requirements continue to vary between different programmes, including between programmes within an institution, and interview data resonated with this. The variation in academic requirements ranged from solely a "good" (1st or 2:1) honours degree, to a requirement for both a good first degree and a Master's degree in the discipline of the programme. Many programmes stated this as "a good honours degree and/or a Masters". While the majority did seek a postgraduate qualification, which was specified as at least a PG diploma in some cases but usually a Master's in a related area, there was a suggestion of flexibility by some in the use of wording such as "normally a Master's".

Requirements for working experience were rather more subtle, and in many cases were simply stated as "appropriate professional experience" although some institutions quantified this as a minimum of 2, 3 or 5 years of experience in a relevant profession, or 2 years in a senior professional role. In a few cases there was simply a preference for some working experience, while in others a requirement for professional qualifications or certification. In one or two cases a specific combination of working experience was sought (i.e. working with children at more than one age group, for an EdD programme).

However, it seems likely that, for many of the smaller programmes at least, institutions practically offer some flexibility, as indicated by several programme leaders when interviewed. They suggested that there would be sufficient discussion with a candidate in the lead-up to an application to identify whether they had adequate experience (i.e. their specific role and duration), and that in some cases deferral of the application would be recommended for a further year in order to obtain further experience. In this way these interviewees stated that no applicant had ever failed the experience requirement. The very small scale of many programmes suggests that this aspect of the application process was essentially bespoke to the candidate, although this may not be feasible in the case of programmes with large cohorts.

Only one institution overtly stated (at least in its survey response) that it required the applicant to have a potential workplace-based supervisor, and only a small number of programme leaders suggested that there was a requirement for the applicant's employer to support (at least in principle) their participation. The issue of potential workplace support or supervision is discussed further in section 6.1.

3.3. Structure and assessment

3.3.1. Existing knowledge

The structure of PDs has been thought to vary between programmes, but typically follows a two-stage process with significant pedagogical input, research training, assessment and cohort-based learning in stage 1, followed by independent research, a thesis and examination by viva in stage 2 (Park, 2007). This model of PDs including elements of pedagogical input and independent research is reflected in a QAA statement (QAA 2011, p.15) "*Professional and practice-based doctorates normally include structured elements such as lectures, seminars and workshops with an emphasis on the candidate acquiring skills relevant to their professional practice, in addition to producing original research*".

McVicar et al. (2006) reported that stage 1 typically includes a modular or unit structure with classroom-based teaching sessions related to advanced practice and advanced research methods, with much of the 'taught' element in the first year of programme (Barnard, 2011), with specific learning outcomes (Park, 2007). Within stage 1, assessment of modules/units may be through examination, practical demonstration or essay-based assignment (Powell and Long, 2005; Brown and Cooke, 2010) and they may have credit ratings or grades (Bourner et al., 2001; Galvin and Carr, 2003; McVicar et al., 2006). The QAA (2008) noted that in some cases credits were awarded at level 7 (M level) and in others at level 8 (D level). Progress to stage 2 of the PD was usually dependent upon the successful completion of stage 1.

The final assessment of PDs is through submission of a thesis or portfolio and an individual viva voce examination. To account for the work undertaken in stage 1 of the PD, the research thesis tends to be shorter in length than that for a PhD (acknowledging that there are disciplinary differences in this). Many authors have commented on the lack of standardisation of thesis length across different PD programmes (Bourner et al., 2001; Barnard, 2011; Scourfield, 2008; QAA, 2011). Barnard (2011, p.265) asserted that an acceptable PD thesis could range from 30,000 to 80,000 words, but in all cases the credit value of the research element exceeded the taught element of the programme. It was also noted that alternatives to a thesis were required in some practice-based or practitioner doctorates, particularly within creative and performing arts, and design, although these might not strictly be seen as PD programmes:

...the candidate's output involves practice-related materials. For example, in the performing arts the output involves a written commentary... and one or more other artefacts such as a novel (for creative writing), a portfolio of work (for art and design), or one or more performance pieces (for theatre studies, dance or music) QAA (2011, p.15).

3.3.2. *New perspectives*

Both institutional-level and programme-level responses were obtained from many institutions about the structure of their PD programmes and about requirements for the successful completion and award. The vast majority of programmes were available only for part-time study, but a small proportion of programmes were also offered on a full-time basis, across a wide range of disciplines, including clinical psychology where the DClinPsy was developed as a full-time programme.

Given the nature of PDs, where many candidates integrate their study with their full-time employment, traditional classifications of study modes are potentially not instructive. The predominant delivery mode for programmes was described as blended, i.e. a combination of face-to-face, self-study and distance-learning.

The face-to-face element of blended programmes, in the 'taught' stage 1 of programmes, varied from 1-week blocks to occasional study days hosted by the institution. In most cases the institutional study days tended to be a mix of structured sessions and action learning sets.

A significant number of programmes stipulated that the 'taught' part of the programme was only available online or through distance learning, particularly among the newer programmes, although there was usually a requirement to participate in online interactions or discussions. There were examples of programmes which were entirely online, where candidates had no face-to-face contact either with other candidates in their cohort or with their supervisor(s), albeit this was a small number of programmes.

Institutions stated the typical duration of each of their PD programmes. For the (few) full-time programmes, this was usually 3 years or in some cases 4 years. For part-time programmes, the duration ranged from 4 to 8 years (with DBA programmes tending to be at the shorter end of this range), although the majority were stated as 6 to 7 years.

There was a common structure to most programmes, although with a few exceptions, which reflected the two-stage concept described in the literature. A first 'taught' stage was in most cases of 2 years duration (although in a few cases 18 months), at which point the candidate would progress to the second stage which was their research and thesis, which was expected to take between 2 and 5 years. That progression was a formal transfer in many cases, and contingent on the candidate obtaining sufficient academic credits in the first stage.

Not all candidates initially registered for a PD qualification. We came across anecdotal evidence that candidates could be registered for an MRes programme during the first stage, and transfer to the PD programme for stage 2. It was reported that this avoided the risk of adding to doctoral non-completion figures and provided an exit qualification if candidates withdrew at the end of the first stage.

Where the programme was overtly credit-based (which was not always the case), the requirement was most commonly for 180 M level (level 7) credits in the taught stage, although some programmes set this at 160 (and a few 120) M level credits and some a combination of 60 M level and 120 D level.

For the second (research and thesis) stage, requirements were stated for the thesis as 360, 420 or 540 D level credits (the lowest stated for a programme was 300 credits

specifically for the thesis). A common model was to require 180 M level credits in stage 1 and 360 D level in stage 2, comprising the total of 540 credits for the programme as required by the QAA.

Although some institutional programmes stated a desired thesis length of up to 80,000 words, the most commonly stated was up to 50,000 words, with the majority in the range 40,000 to 60,000 words. There were a few cases where it was lower, the shortest being 25,000 words where an additional portfolio of other work was also to be submitted, in the form of creative work (for a performing arts programme) or a placement portfolio.

In general, any other requirements for assessed elements within the qualification related to the taught phase of the programme, which could also include the candidate's proposal for their thesis research prior to transfer to stage 2.

However, there was also evidence for some other structures, which did not adopt the two-stage model, or at least not overtly, including some programmes which were entirely level 8 learning activity. Nonetheless, they maintained the structure of commencing with 'taught' or guided self-learning modules including disciplinary content and also research methods, with progression to research-related activity such as development of the research proposal, and then to the research stage itself (in which a literature review was commonly the first step). Some programmes required publication of a professional article, as opposed to an academic publication, during the middle of the programme.

Issues relating to the cohort nature of PD programmes are addressed in Chapter 6.

3.4. Content of the taught element

Comparatively little has been published previously in relation to the skill development aspects of PD study, but this was a focus for our interviews with PD candidates as well as programme leaders. These gave insights into the content of the taught modules of PD programmes. For many programmes an outline of the taught content can also be accessed on institutional websites.

Although the mix and balance of content was bespoke to each programme, there was generally a combination of subject-specific academic content and skill development modules (which were mostly research-related skills but in some cases also professional skills). The most commonly reported themes within the skill development modules were broadly as follows, although not all of these were present in every programme:

- Skills in reading and reviewing literature;
- Academic writing skills (and on some programmes writing in other genres, particularly for professional audiences) and other presentation skills;
- Critical thinking skills;
- Research philosophies;
- Research training and methodologies;
- Context-specific data collection methods;

- Analytical approaches and skills, including qualitative and quantitative data analysis techniques and tools;
- Using theory and the work of theorists to evaluate data;
- Reflexivity (relationships between cause and effect);
- Developing a research question;
- Writing a research proposal.

Where there were modules which aimed to develop other professional skills or attributes, these were focused on:

- Professionalism;
- Reflective practice (becoming a reflective practitioner).

These compare well with relevant Research Council doctoral training requirements (ESRC, 2015). The latter, although expressed as training outcomes, equate to a very similar programme of core training covering research skills, research methods and broader capabilities, together with subject-specific training requirements.

3.5. Supervision

Again, relatively little has been published in relation to supervisory practice within PD provision. It was clear from our interviews with current PD candidates and recent alumni that supervision arrangements were not consistent across programmes, or between institutions. In a significant proportion of cases candidates reported having a single supervisor, while a smaller number had two (and occasionally there could be three) supervisors. In very few cases was one of these an employer-based (or 'industrial') supervisor, although it was clear from some programme leaders that this had originally been an intention of the delivery model of a programme.

For the two instances of programmes examined in depth which were designed for international study by distance learning, there was a supervisor at the HE institution and also in the candidate's home country (which could be through the educational partner if it was a partnership arrangement).

'Remote' supervision of candidates who studied through distance learning was reported to be a challenge, as it was recognised that some of the value of supervision was best achieved through face-to-face contact. For some international programmes where candidates were all in a single other host country, this could be achieved by one or more supervisors making periodic trips to that country, although it is known from research on transnational education programmes that this 'flying faculty' approach tends to be unsustainable in the long term (Mellors-Bourne et al., 2014b).

We also inferred that providing adequate supervision could be becoming more of an issue on some UK programmes. Some programme leaders intimated that their programmes had been launched primarily as 'local' programmes, in the sense that candidates were expected to live in the institution's region and could physically attend

campus periodically for taught modules or supervision. As new programmes were launched on more specialised themes, this almost inevitably meant that the cohort might need to be drawn from a wider geographical area in the UK, and would not be able to attend the institution physically so regularly. The use of distance learning, or study through a block or summer school model, could accommodate this for the taught part of the programme, but did not transfer to the research stage for supervision. As cohorts increasingly become international, this issue becomes more exacerbated.

There was also some evidence, from programme leaders and supervisors, to suggest that there was inconsistency between different institutions in the allocation of supervisory hours for PD candidates, as well as inconsistency across programmes (which is likely also to apply to PhD programmes). This was broadly reflected in the candidates' varying reports of their own supervision arrangements.

More insights into PD programme delivery, structure and content are given in Chapter 6, largely from candidates' perspectives.

3.6. Programme fees

Although this information was not sought from survey respondents, the question of the level of programme fees arose in interviews with both candidates and programme leaders. Desk research was conducted to obtain an indication of annual fee levels for PD programmes. This revealed a wide range from around £2000 to £19,000 per year for a part-time programme (for UK/EU candidates), although the vast majority of programmes were in the fee range of £2000-3000 per annum and the much higher fee levels were almost exclusively amongst DBA programmes. International fees were generally significantly higher, although for some DBA programmes a single, global fee was set (essentially at the 'international' level).

Where full-time options were available, these were generally at double the part-time rate (i.e. £4000-6000).

As programme lengths vary considerably, this suggests that the total fees will vary from around £10,000 to £56,000, but in many cases are likely to be in the range of £15,000 in total, for UK/EU candidates.

4. Current extent and range of programmes

4.1. Institutions and programmes

From the survey responses and desk research, a total of 320 professional doctorate programmes were identified, excluding EngD programmes. As indicated in Chapter 2, this total was developed on the basis of 63 survey returns from senior staff in institutions (who may or may not have complete knowledge of their institution's activity) and searches of the websites of the other English institutions. Although this offered potentially complete coverage of English institutions, both methods contain some risk of under-representation of the number of programmes, so the total may be an under-estimate.

A precise total was hard to quantify and required some assumptions to be made, as several institutions listed full-time and part-time versions of the same programme as separate programmes, while others listed separately what appeared to be a single programme but with a range of different co-delivery partners. The total of 320 programmes excludes these variants. A further complicating factor arose where a single over-arching programme could contain several specialist pathways, which resulted in different awards. These were counted on the basis of the number of different awards available. A 'generic' PD programme was counted as a single programme.

The total of 320 programmes within English institutions is not directly comparable with previous survey data, such as Brown and Cooke (2010) who suggested growth from 109 programmes in 1998 to 191 in 2005 and rapidly upwards to 308 in 2009, based on a sample of UK institutions (71 UKCGE members, of which 57 were in England). Our total also excludes EngD programmes (of which there were 24 in the UKCGE 2009 total). We also do not know the protocols used in those previous surveys in relation to counting multiple variants of programmes. Nonetheless, we infer that the number of programmes provided by English institutions is now somewhat higher than the level in 2009.

In terms of the number of institutions providing programmes, our survey responses and desk research suggest that 86 out of the 123 English institutions investigated currently provide PD programmes. Interestingly, from the survey response data, of the 15 institutions which responded to the survey that did not have current PD programmes, eight reported that they had plans to introduce PD programmes. Although there were reports of closures of individual programmes, only one institution anticipated ceasing PD provision. This suggests that the number of institutions involved in PD provision will continue to rise.

Analysing this provision in relation to institutional types (Table 3) revealed that 37 pre-1992 institutions (including 18 Russell Group members) offered programmes and 41 post-1992 institutions, plus eight disciplinary specialist institutions. Compared with the Bourner et al. (2001) picture that PDs could be found in over three-quarters of pre-1992 universities and a third of post-1992 universities in the UK, these numbers suggest that there has been only slight growth in the proportion of pre-1992 institutions offering PD provision, while the main growth has been in the post-1992 institutions (of which two-thirds now have provision, compared with one-third in 2001). The proportion amongst the specialist institutions is lower, but not all have RDAP. It should be noted that this

comparison is between current proportions of English institutions while the previous proportions were of UK institutions that were UKCGE members.

Institution type	No. of programmes	No. of institutions with PD provision	Total number of institutions
Pre-1992	136	37	41
Post-1992	172	41	61
Specialist	12	8	21
All	320	86	123

Table 3 Number of current PD programmes recorded in English HE institutions, by broad type of institution

On the basis of the institutional returns and website searches, the average number of programmes per institution was just under four, which was broadly similar for both the pre-1992 and post-1992 groups of institutions. The distribution of provision in terms of numbers of programmes per institution is shown in Figure 1, which is for all institutions with current provision. This demonstrates that many of the institutions with the largest numbers of programmes are post-1992 institutions.

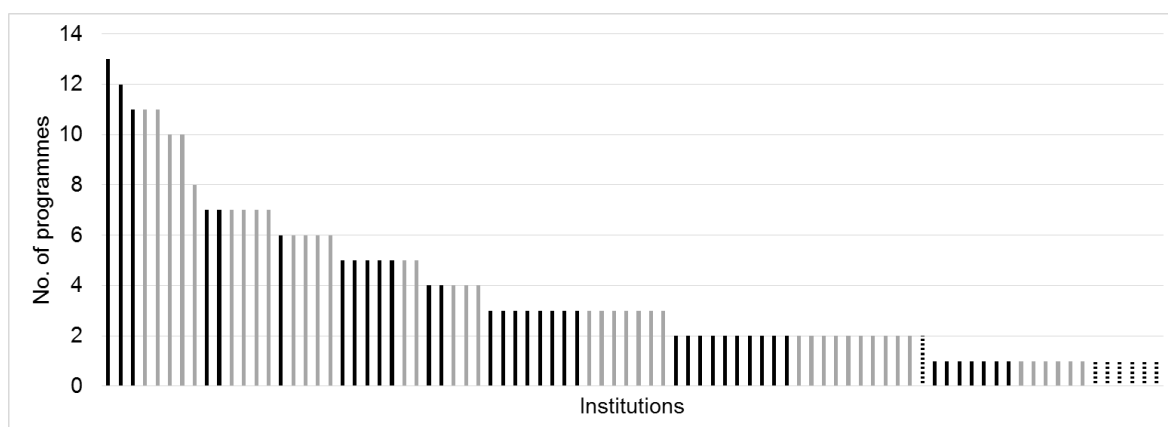


Figure 1 Number of PD programmes per institution, for all institutions with current provision. Each institution is represented by a single bar. Dark bars are pre-1992 institutions; grey bars – post-1992 institutions; dotted bars – specialist institutions.

When this is analysed also by broad subject grouping, it can be seen that the pattern of provision has shifted since Bourner et al. (2001) reported that only one of the post-1992 universities offered PDs in three or more different subject areas, as this now appears to

be the case in as many as 20 post-1992 institutions. Meanwhile, a roughly similar proportion of the pre-1992 institutions (15 in number) continues to offer this breadth of provision as was the case in 2001 (when it was 15 across the UK). This clearly shows that the expansion and increased breadth of PD provision has taken place in the post-1992 universities since that time.

4.2. Subject groupings

4.2.1. Academic classification

When classified at Joint Academic Classification System (JACS) Subject Group level, the 320 identified programmes were dominantly in Subjects Allied to Medicine (81), Education (72), Biological Sciences (65, including Clinical Psychology programmes) and Business & Administrative Studies, which together made up over 80% of all programmes (Table 4). There were fewer than 14 programmes in any other subject group.

JACS Subject Group	No. of institutions	No. of programmes	Key PD themes / programmes
Education	54	72	EdD
Business & Administrative Studies	38	48	DBA
Biological Sciences	37	65	Psychology, DClinPsy
Subjects Allied to Medicine	37	81	Health & social care
Medicine & Dentistry	10	13	MD, DDent
History & Philosophical Studies	9	11	Theology
Creative Arts and Design	6	7	
Social & Political Sciences	6	7	
Law	5	5	Criminology
Agriculture and Related Sciences	2	2	
Architecture, Planning etc.	2	2	
Computing Science	2	2	
Generic/transdisciplinary	2	2	
Languages	1	1	
Physical Sciences	1	1	
Veterinary Medicine	1	1	

Table 4 Numbers of English institutions offering PD programmes, and total number of PD programmes, by JACS Subject Group (from 86 institutions; total of 320 programmes)

The number of institutions offering programmes in each Subject Group is shown in Table 4, with 54 institutions offering PDs in Education, 38 in Business & Administrative Studies and 37 each in Biological Sciences and Subjects Allied to Medicine. On average, institutions tended to have more programmes within the Subjects Allied to Medicine group than in other groupings. Outside these subject groupings, it can be seen that the numbers of programmes and institutions quite closely matched, meaning that institutions were offering a single programme in those areas.

Given the professional focus of PDs, it is perhaps unsurprising that the subject areas of the programmes do not map particularly well onto the academically-oriented JACS code classification scheme. All health and social care programmes were classified as Subjects Allied to Medicine, unless they were clearly a medicine, dentistry or psychology-focused programme. All the psychology programmes were coded to the JACS Biological Sciences subject group, including PDs in Educational and Forensic Psychology which may be more social science-based than their discipline coding suggests.

This snapshot of the total provision by English institutions, from the survey returns and institutional website research, demonstrates the continued prominence of certain key PD programmes or clusters of programmes on particular themes: EdD programmes; DBA programmes; PDs in health and social care; and the DClinPsy and other psychology/psychotherapy PDs.

4.2.2. 'Professional' subject groupings

Other classification schemes are potentially more informative in relation to PD provision than JACS-based academic subject groupings. Table 5 draws from some of the subject groupings used by Brown and Cooke (2010), although with some key amendments (such as combining psychology and psychotherapy). This confirms the dominance in PD provision of the four key subject themes of education, business, health and social care, and psychology, with programmes in these areas comprising 80% of all PD programmes.

This tabulation also enables a rough comparison to be made with programme data (albeit for the UK) from 2009, although it is not possible to code all the 2009 data to our new categories and it seems likely that the coding used by Brown and Cooke (2010) in relation to PDs in health and medicine differs from our own. These issues aside, this suggests that there may have been a reduction since that time in provision relating to health and medicine, but growth in EdD provision and in a range of niche areas.

Subject area	No. of programmes		No. of institutions 2015 (England)
	2015 (England)	2009 (UK)	
Health & social care	81	69	37
Medicine & dentistry	13	36	10
Psychology & psychotherapy	58	49*	35
Business & management	48	46	38
Education	72	38	54
Social sciences & law	12	9	10
Humanities (inc. Theology)	12	5*	10
Creative & performing arts	7	na	6
Other science & technology	14		13
Generic	3	5	2
Total	320	257	86

* minimum number, after reclassification of Brown and Cooke's (2010) data

na – unknown due to reclassification

Table 5 Numbers of PD programmes and institutions offering PD programmes, in broad professional subject areas (excluding engineering). 2015 data from surveys and institutional websites for English institutions; 2009 data derived from Brown and Cooke (2010) for the UK

4.3. Proliferation of programmes and awards

Brown and Cooke (2010) noted the proliferation of titles of PD programmes and to a lesser extent awards. Our new programme-level information confirms that this continues to be the case.

In the subject areas with smaller numbers of programmes, titles and awards were just as varied. Within the eight theology programmes reported, for example, there were seven different award titles. Although a unified programme in Practical Theology is currently run by four English institutions, between them they use three different names and four different award titles.

In other areas where PDs have emerged, award titles essentially abbreviate the specific programme title, hence examples such as DAppLing (Professional Doctorate in Applied Linguistics), DFA (Doctorate in Fine Art), DAppCrim (Doctorate in Applied Criminology), DSE (Professional Doctorate in Sport and Exercise) and DHeritage.

These data confirm the observation of Brown and Cooke (2010) that professional doctorate provision is expanding into specialist areas but also reiterate their call for some standardisation of nomenclature.

Examination of our survey data and institutional website research, as well as interviews with programme leaders, revealed two types of expansion. There was evidence of an increase in specialised programmes within the four 'main' PD areas (as was introduced in Table 2), for example:

- Health and social care: new and recent programmes in public health, social work, healthcare planning and management, and emergency medicine;
- Psychology: programmes in forensic psychology, educational psychology, counselling, mentoring, as well as psychotherapy;
- Education: programmes specifically relating to higher education management, literacy, educational psychology, and education leadership;
- Business: programmes in project management, marketing, public administration, and human resources.

In addition, programmes in 'new' or niche subject areas were seen to have emerged in recent years across a widening range of fields. These included relatively recently established programme clusters (i.e. where there was a small range of programmes from different institutions) in areas such as theology and criminology, and individual or small numbers of programmes that had been launched recently or were being planned in many other professional domains. These included the built environment, data science, policing and security, logistics, agriculture and food, sport science, social policy, interculturalism, applied linguistics, music and the creative arts, and design. Table 6 provides an illustration of the range of these 'new' PD programmes and their award titles.

Taken together, these findings reveal both the increased specialisation of the PD model within its established disciplinary areas and additionally its proliferation into many applied science-related professional areas, as well as the social sciences and some areas of the creative arts and humanities.

PD programme title	Award abbreviation
<i>Science-related:</i> Professional Doctorate in Architecture, Design and Built Environment Professional Doctorate in Agriculture and Food Professional Doctorate Biomedical Science Professional Doctorate in Science & Technology Professional Doctorate in Veterinary Science	DArch DAgriFood DProf DProf DVet
<i>Computing and information science:</i> Professional Doctorate in Data Science Professional Doctorate in Digital Media	DDataSci DProf
<i>Social sciences and criminology:</i> Professional Doctorate in Criminal Justice Doctorate in Criminology and Criminal Justice Professional Doctorate in Applied Criminology Professional Doctorate in Security Risk Management Professional Doctorate – Policing, Security and Community Safety Doctorate in Social Science Doctor of Public Policy Professional Doctorate in Policy Research and Practice	DCrimJ DCCJ DAppCrim DSyRM DSocSci DPP DPRP
<i>Arts and humanities:</i> Doctorate in Design Doctor of Creative Arts Doctorate in Fine Art Professional Doctorate in Applied linguistics Doctorate in Heritage	DDes DCreative DFA DAppLing DHeritage
<i>Other professional fields:</i> Professional Doctorate in Elite Performance [sport] Professional Doctorate in Sport and Exercise	DProf DSE
<i>Theology:</i> Professional Doctorate in Pastoral Theology Doctor of Ministry Professional Doctorate in Practical Theology	DPT DMin DPracTheol, DThM

Table 6 PD programme and award titles in ‘new’ or emerging professional fields, from survey and institutional interview information

4.3.1. Longevity of programmes

Survey respondents provided the year of first enrolment for a total of 100 PD programmes. From that data it could be seen that the average ‘age’ of a programme was just under 8 years, but ranged from zero (i.e. new programmes) to around 25 years (i.e. launched around 1990, at the outset of PD provision in England). Half of all programmes had been launched within the last 5 years.

There was also a strong subject-based dimension, based on the groupings used in Table 5, with all of the programmes which were more than 15 years old being in education,

health or psychology, and an increasing proliferation of subject areas represented by more recent programmes. Notably, however, programmes continued to be launched in the ‘main’ four areas in recent years, as well as in these ‘newer’ other subject disciplines.

4.4. Enrolments

Not all survey respondents were able or willing to provide enrolment data but, after some data cleaning, a sub-sample of 100 programmes was obtained which could be analysed. The following results are based on that sample, which was reasonably representative in terms of subject areas, comprising 79 programmes in the four ‘main’ areas and 21 others.

4.4.1. Total enrolments

The total current number of registered candidates (i.e. total enrolments) across the 100 programmes was just under 2600, suggesting an average total enrolment of 26 per programme. With many programmes lasting 5 to 7 years, this reflects small annual cohorts in many cases. However, these were not split evenly between different groupings, with average totals enrolled of 37 for the business area, 36 in education, 30 in psychology and 15 in health and social care (Table 7). Remaining programmes in other subject areas were combined into a single group, which had an average total of 12 participants enrolled.

Nine programmes within this sample of 100 had no candidates at all, and one third of them had more than the overall average of 26 participants (of which half were education programmes). Four programmes had in excess of 100 registered participants, with the largest being reported as 240. This somewhat uneven distribution, with a relatively small number of large programmes and a high proportion of rather small programmes is shown in Figure 2, where a vertical bar represents a single programme.

Subject area grouping	Total no. enrolled	No. of programmes	Mean
Education	899	25	36
Business & management	592	16	37
Psychology & psychotherapy	485	16	30
Health & social care	337	22	15
Other	287	21	14
Total	2600	100	26

Table 7 Total number of PD candidates enrolled (all years), within simplified subject groupings, in sub-sample of 100 programmes

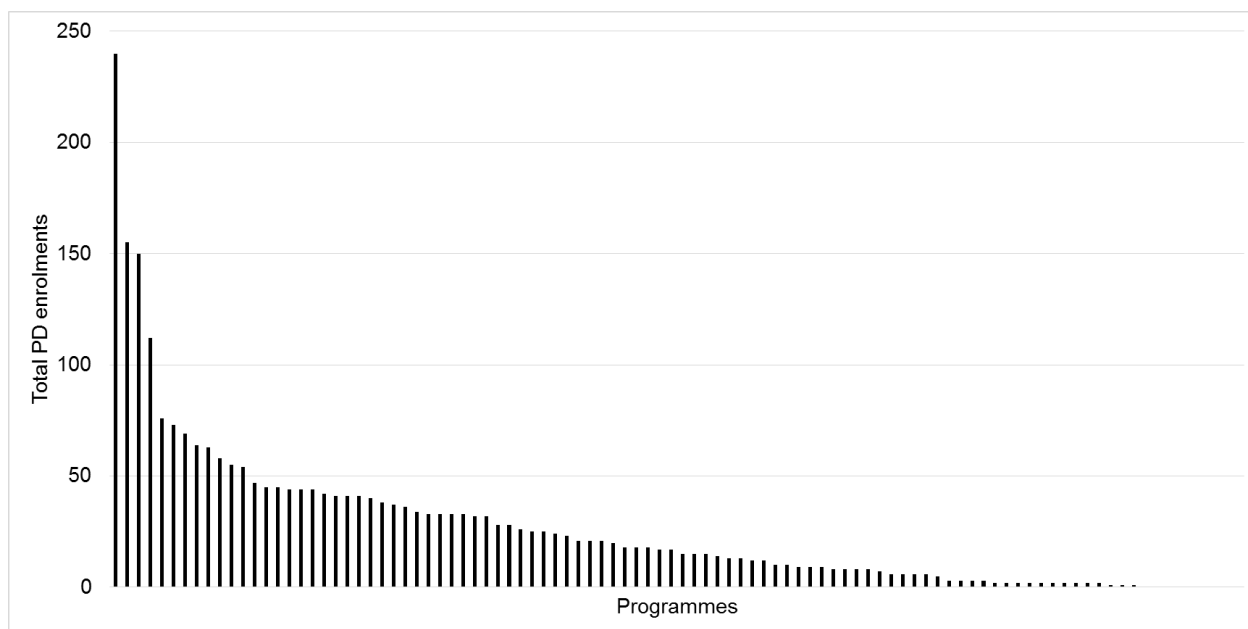


Figure 2 Total numbers of enrolled candidates (all years) per PD programme; each vertical bar is a single programme (within the sub-sample of 100 programmes). Programmes with zero enrolments not shown

Were these enrolment patterns to be broadly representative of all programmes, this would suggest a total of around 8300 professional doctorate candidates registered in English institutions. However, it should be stressed that the sub-sample was not random and so may not be representative, and this estimate should be treated cautiously. For context, this would represent just under 9% of all doctoral candidates in England.

For comparison, Brown and Cooke (2010) reported a total of 7882 enrolled candidates in 2009 in its sampled (71) institutions across the UK, which included EngD enrolments.

4.4.2. *New enrolments*

Survey respondents also indicated the number of new enrolments in academic year 2013/14. The total across the sample of 100 programmes was 524, hence an average of five per programme. In terms of averages for the different subject groupings, this was highest for psychology programmes (nine starters on average), eight for business programmes, six in education, but lower at three for health and two for other subject areas (Table 8). Only 17 programmes had more than 10 starters in 2013/14, although the largest new cohort was reported to be 50 (which was a DBA programme).

The pattern of dominantly small cohorts, particularly on new programmes but also on many health and DBA programmes, was confirmed in interviews with programme leaders. Commonly, these informants reported that recently established programmes had the expectation of growth to a level of six to eight new enrolments per year, but in many cases had not yet reached more than five per year.

Subject area grouping	No. of new enrolments	No. of programmes	Mean
Education	146	25	6
Business & management	132	16	8
Psychology & psychotherapy	140	16	9
Health & social care	60	22	3
Other	46	21	2
Total	524	100	5

Table 8 Number of new PD enrolments in 2013/14, within simplified subject groupings, in sub-sample of 100 programmes

Perhaps worryingly, there were no new starters at all on over a third of the programmes in this sample (35), and this was reflected in some of the interviews. In those cases, it was frequently reported that prospective candidates' interest in the programme had not yet translated into firm enrolments. Although there were programmes with no 2013/14 enrolments in all the main subject areas, this was more commonly the case within certain areas. Around one in five of programmes in the psychology, education and business areas reported no starters in 2013/14, while this was the case for over half of the programmes in health and social care, and up to three-quarters of the programmes in other niche areas. The last of these figures is particularly interesting given that many new programmes are in these niche areas. However, it should be remembered that this was within a sample of 100 programmes, which may not be fully representative of all PD programmes.

4.4.3. Completions

The majority of respondents also provided some data for completions. Across the total of 100 programmes in this sample, there were reported to be 290 completions in 2013/14. Again, these were not distributed evenly between subject areas, with just over 100 in each of psychology and education, but just under 30 in each of business and health and social care, and slightly fewer in the group of 'other' subjects. The number of completions in the business and 'other' areas were significantly lower than would be expected from the pattern of total enrolments, and is likely in part due to significant numbers of programmes that had been launched relatively recently and within which no candidate had yet reached completion. It should also be noted that the interviews revealed that it was not unusual for candidates to intermit for a period of time, normally due to the competing pressures of part-time study and their professional and personal commitments.

Some respondents were also able to provide numbers of completions for recent years, relating to a subset of around 75 programmes which was broadly aligned across the main subject groupings. Within that subset, the total number of completions was reported to be

215 in 2009/10, 205 in 2010/11, 250 in 2011/12 and 285 in 2012/13 (Table 9). Taken together with the 290 reported in 2013/14 (albeit from a larger sample of 100 programmes), this provides some evidence of a rising trend in the number of those obtaining a PD over the last 5 years.

Although it should be stressed that this completion data was from only a partial sample of programmes, it provides broad evidence of a rise in the number of completions in all subject groupings over this period. Within this sample at least, it shows the dominance of psychology and education programmes numerically, but that completions in programmes in business and 'other' subject areas have been growing as a proportion of total PD completions (Table 9) as these recent programmes become sufficiently mature for completions to take place.

Proportion of total completions	2009/10 %	2010/11 %	2011/12 %	2012/13 %	2013/14 %
Health & social care	23	20	26	31	31
Psychology & psychotherapy	91	82	98	117	108
Business & management	6	9	19	18	26
Education	89	91	102	97	103
Other	5	3	7	23	22
Total no. of completions	214	205	252	286	290

Table 9 Proportion of total PD completions over the past five years, by broad subject area, within a sub-sample of 75 PD programmes (except for 2013/14, where sample was 100 programmes)

Respondents were asked to estimate an average completion rate over the past 5 years, but relatively few felt able to do so, and many stated that their programmes were insufficiently mature to make an estimate. The estimates that were made were quite variable but were centred on a modal figure of around two-thirds.

4.5. Administrative information

Higher Education Statistics Agency (HESA) data collection does not currently provide specific guidance on how to record candidates registered for professional doctorates. However, an exploration of how professional doctorates are represented in the HESA Student Record was carried out, with the intention of assessing how well this captured PD provision through comparison with 'known' data returned by survey respondents and programme leaders for the sampled programmes.

Specifically, we reviewed those records in the 2013/14 data for English institutions which had the course aim of D00 (Doctorate degree), D01 (New Route PhD), E00 (Doctorate degree that does not meet the criteria for a research-based higher degree), L00 (Masters degree that meets the criteria for a research-based higher degree) and L99 (research-based higher degree where the student may ultimately study at levels D or L). This returned over 6,300 courses (programmes) and 93,775 registered students in English institutions (Table 10).

	Course aim	Students	%
D00	Doctorate degree that meets the criteria for a research-based higher degree	80,415	86
D01	New Route PhD that meets the criteria for a research-based higher degree	170	0.2
E00	Doctorate degree that does not meet the criteria for a research-based higher degree	1,495	2
L00	Masters degree that meets the criteria for a research-based higher degree	11,385	12
L99	Research-based higher degree where the student may ultimately study at levels D or L	310	0.3
	Total	93,775	100

Table 10 Research postgraduates at English HEIs, in the HESA Student Record 2013/14, by course aim

HESA guidance requires institutions to use course titles (in the CTITLE field) that are “*meaningful to a wide range of stakeholders including potential students*”. Course titles were therefore explored within the research postgraduates’ records in Table 10 to see whether it was possible to identify which courses were professional doctorates and the relevant qualification. Word search initially was used to identify and exclude ‘PhD’, ‘DPhil’ and ‘Doctorate of Philosophy’ courses, and include ‘Prof’ or ‘Professional’ courses. The remaining courses were manually reviewed to identify professional doctorates through common professional doctorate award titles, e.g. DBA, DClinPsy, DPsych, DPharm, MD, EdD, EngD, DMin, and variants of these.

Through this method we identified 481 professional doctorate courses (programmes), excluding EngD courses. However, it was clear that a single PD programme could have more than one entry in the HESA Student Record. Commonly institutions use different course titles to record full-time and part-time modes of study separately, which increases the apparent number of programmes. Equally, as noted previously on the basis of their professional sector focus, many PD programmes can be classified in more than one academic subject grouping; for example, a ‘health and social care’ PD programme is likely to be classified in both ‘Subjects Allied to Medicine’ and ‘Social, Economic & Political Studies’. The substantial PD provision in educational psychology is another prominent example.

Many of the courses were recorded as having no registered candidates, although the convention on rounding of data (to the nearest five) means that very small cohorts may be reported as zero. It was therefore not possible to know whether courses were active programmes in the year studied. Equally, the rounding means that the total number of registered participants derived (7495) is not reliable, although not too dissimilar from our very broadly estimated total of 8300 candidates from the total of 320 programmes.

When the number of programmes identified in the HESA Student Record data was compared with the information obtained in this project, the total of 481 programmes was higher than our recorded total of 320 programmes, although this difference is likely partly to be accounted for by the multiple classification of some programmes.

At an institutional level, we compared the number of programmes identified in the HESA data for the institutions investigated in depth in this project with their reporting to us of their PD programmes. There was little consistency between the two, either in terms of programmes reported to be active and/or numbers of registered candidates. Across the 11 institutions compared in this way, HESA recorded a total of 128 programmes, while there were 74 programmes based on our interviews and survey returns, and for only three institutions did the programmes match.

Some of these variances could be seen to include cases where a programme no longer existed, where programmes were 'double-counted' due to spanning two subject groups, and also due to different study modes, as well as due to inclusion of course titles that were not professional doctorates. While it is also possible that our interviewees and staff returning our survey did not have a full view of their institution's provision, this seems unlikely to be the cause of major variances.

There were also 2405 courses in the HESA data where it was not possible to ascertain whether the resultant qualification was a professional doctorate or a PhD/DPhil. Furthermore, by research on a few institutional websites, it was possible to find doctoral programmes where the structure and content of the programme were consistent with the professional doctorate approach, but the qualification awarded was a PhD.

The identification of PD degrees with the HESA record is not helped by the advice on coding and associated guidance. Twenty-four institutions had doctoral degrees coded as E00 (Doctorate degree that does not meet the criteria for a research-based higher degree), a coding which is counter to the QAA Quality Code requirement that every UK doctorate must be a research-based degree. These included courses in a wide range of subject groups. Although most appeared to be PDs, two were recorded as 'Doctorate of Philosophy' and for others it was unclear what degree was awarded.

Overwhelmingly, institutions appear to be choosing to register all their doctoral degrees as D00. Overall, this means that the current HESA Student Record provides little insight into the landscape of professional doctorates, or more generally in terms of different types of doctoral qualifications. HESA's guidance on the Course Aim and Course Title fields will need to be revised significantly if more clarity is deemed beneficial in relation to the recording of PD programmes and those registered on them. There may also be value in adding an additional field to the HESA Student Record that records the 'qualification award'.

5. PD provision: supply and demand

5.1. Why institutions provide professional doctorate programmes

Around one quarter of the institutional survey responses indicated that the institution overtly included reference to professional doctorate provision within its research strategy, while the remainder stated that it did not. A number of those with an overt strategy articulated an objective of conducting research that had impact on society, and/or improved connections with industry and society. Several respondents suggested that PD provision was “implicit” within their doctoral research provision strategy, rather than being mentioned overtly.

A more detailed rationale for institutions to offer PD programmes was investigated by asking survey respondents to indicate the extent of importance of a series of potential contributions that PD researchers could make to the institution. The rationales that were most commonly rated as very important were adding breadth to the range of doctoral researchers (effectively entering new markets), and building partnerships with employers in key sectors, as well as developing research capacity in particular disciplinary areas.

Figure 3 was developed by allocating scores to the extent of importance (i.e. 3 for ‘very important’, 2 for ‘important’, and 1 for ‘slightly important’) for each contribution, for all respondents together, expressed as a percentage of the highest possible score (which would be achieved if all respondents rated that option very important).

This illustrates that, overall, the most important contributions made by PDs were to extend doctoral provision into new markets (i.e. new types of researchers), to build partnerships with employers in key sectors, and to develop research capacity in certain specific disciplines. However, building partnerships with local employers and with professional bodies were also important, as was adding to both the scale and breadth of doctoral research.



Figure 3 Relative importance of potential contributions of PD researchers to institution

Although almost all the factors suggested were rated as at least partially important, the pattern suggested that PD provision was not seen by many institutions as a means to add to their research capacity on their main strategic themes.

Whilst not as important as these research-related rationales, a significant number of institutions saw PDs as a means to develop their own staff, and some saw PD provision as one of the pipelines through which they could hire academic staff in the long-term (although this could be very discipline-specific).

When analysis was conducted by broad type of institution, post-1992 institutions most commonly rated as very important PD contributions in additional breadth, building employer links and also adding to research capacity on main strategic themes. None of the pre-1992 institutions rated the last of these as very important.

Figure 4 illustrates both similarities and differences between post-1992 and pre-1992 institutions, using the same analytical procedure as for Figure 3. It shows that post-1992 institutions rated the importance of many of the potential contributions of PDs more highly than pre-1992 institutions. This confirms that post-1992 institutions rated additional research capacity (i.e. more researchers and additional fees) as a more important contribution, both on their main strategic themes as well as in broadening the research base. In contrast, pre-1992 institutions tended to allocate less importance to PDs' contribution to main strategic research themes, but considered that they added principally to breadth.

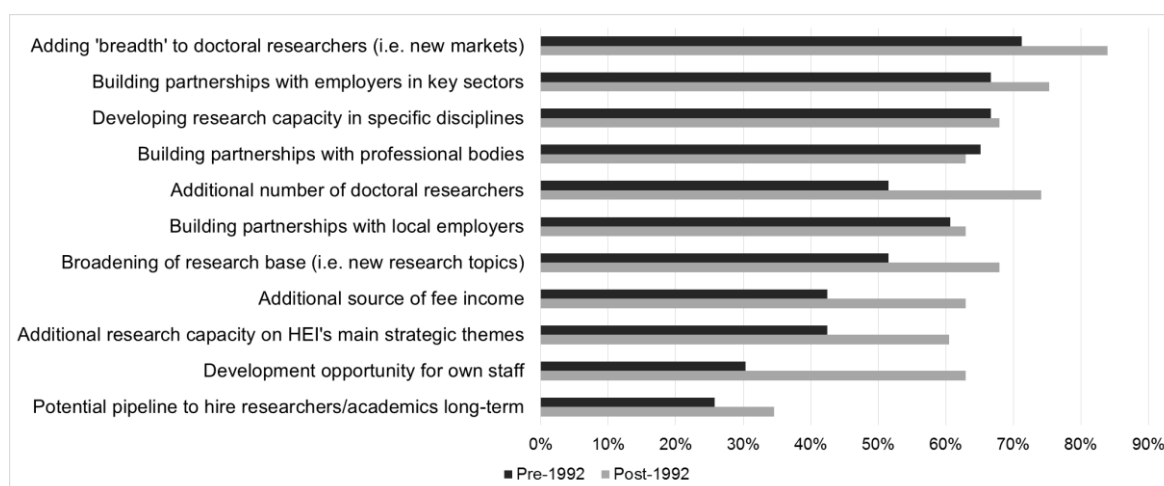


Figure 4 Relative importance of potential contributions of PD researchers to institution, by broad type of institution

Post-1992 institutions also cited a range of other rationales for PD provision as much more important than pre-1992 institution respondents. Amongst these other rationales, in particular, using PDs to develop existing staff was much more important to the post-1992 institutions, as part of their capacity-building.

For simplicity, within this restricted sample, specialist institutions were included within the post-1992 grouping in this analysis.

A few respondents also highlighted that PDs could contribute by increasing an institution's ability to cite impact in its REF submission, while one felt that the additional pedagogical requirements necessary to host a PD programme (in addition to PhD programmes) were "healthy" for the institution. Provision of professional doctorates was seen by some as an inherent part of their institution's ethos (particularly for former polytechnics, which they saw as being strongly grounded in the "real world" and local industrial setting and economy).

Further insights were gained in relation to respondents' views on how they thought PD candidates were distinctive compared with other doctoral researchers. The most commonly cited differences related to the expected greater work and life experiences of PD candidates compared with many PhD researchers (although this was to some extent dependent on the institution and discipline). The location and experience of the PD candidate in professional practice was thought to bring a range of other significant benefits, including:

- Most importantly, new and different perspectives and insights on academic/professional research and research questions, which were not otherwise available in the institution and could add to the institution's capability in research;
- An injection of expertise in particular domains of the Vitae Researcher Development Framework, particularly in professionalism but also in relation to engagement, influence and impact (aspects which it was felt were yet to be developed by many other doctoral researchers);
- An increase in the measurable impact of the institution's research, given the requirement of the PD project to have impact in the professional field;
- Expansion or strengthening of links with employers.

However, the first of these benefits was felt to have particularly strong potential. As one respondent succinctly put it: "*They come with a wealth of experience and insight that most academics don't have*".

5.2. Why institutions launch particular programmes

The interviews with senior institutional staff and PD programme leaders added further insights into the rationale for institutions to launch PD provision in particular areas or to expand provision beyond existing areas. None of these was articulated as a single or dominant rationale, but rather a number of reasons tended to be cited which supported the case for provision of one or more programmes.

It should be noted that universally institutions devolved the development of PD programmes to faculties/departments, and the most common practice seemed to be for a single member of staff to have the inclination and autonomy to initiate the development of a new PD, rather than through a top-down approach, albeit with an institutional authorisation process.

PD provision or programmes were developed and launched on the basis of response to:

- **Need in a profession for the development of staff as researchers.** The institution's PD programme would be used as professional development in response to an industry's or employer's demand to upskill staff. The extent to which that demand was stated by specific employers, or a professional body, as opposed to a more general perception by institutional staff of such a demand, was not always clear.

Programmes in health and social care were historically good examples of this, where centralised workforce planning by the NHS had articulated a need for more level 8 qualified staff in certain clinical fields (through the Agenda for Change, for example) and had devolved funding to National Health Service (NHS) organisations and employers to fund staff to participate in PD programmes and offered enhanced remuneration to employees who obtained these qualifications. PD programmes in psychology have been validated as routes to obtain a licence to practise as a registered clinical psychologist, with participation funded by the NHS, as legislation currently requires a doctoral-level qualification for practice.

The extent to which this process occurs in other sectors, where there is less or no centralised workforce planning and employers are more independent, is clearly lower, but institutions reported that they were responding to perceived or known sector agendas, such as current trends towards highly evidence-based policing, or for more analytically-minded education leaders, as examples.

- **Need in an international market for a doctoral study pathway**, sometimes developed in collaboration with an overseas institution, as part of an institutional strategy to offer study opportunities for prospective students at all levels.
- **A trend of increasing desirability of more specialised qualifications and specific programmes**, rather than generic programmes.
- **A strategy to offer a broad portfolio of opportunities**, which in some cases sought to match those of competitor institutions.
- **Perceived demand for a progression route from its own students** (typically Master's graduates), and/or the institution's wish to provide such a route.
- **To provide professional development of its own staff**, through which they could become research-qualified (and who might otherwise pursue such programmes through another institution).
- **A strategy to broaden research activity and/or funding**, as PDs would typically be funded by employers.
- **A strategic desire to work more closely with particular sector employers**, or local employers.
- **An opportunity to consolidate on areas of existing research strength**, by expanding doctoral provision into a related market (of potential researchers, funders and partners).

The extent to which different rationales were important also depended on the subject area. The desire to provide progression routes for existing students or graduates seemed

particularly to apply to DBA programmes (after graduation from MBA courses) and EdD (after an MA), and the same broadly applied to internationalisation.

5.3. Trends in professional doctorate provision

5.3.1. Extent of provision

Survey respondents were asked to indicate how they expected the total number of enrolments on their PD programmes to change over the next 5 years. Their responses are shown in Figure 5, which illustrates that some growth was expected in around two-thirds of institutions, although strong growth in numbers was anticipated by relatively few. Figure 5 also shows these expectations by broad institutional type, demonstrating the higher expectations of growth in the post-1992 institutions.

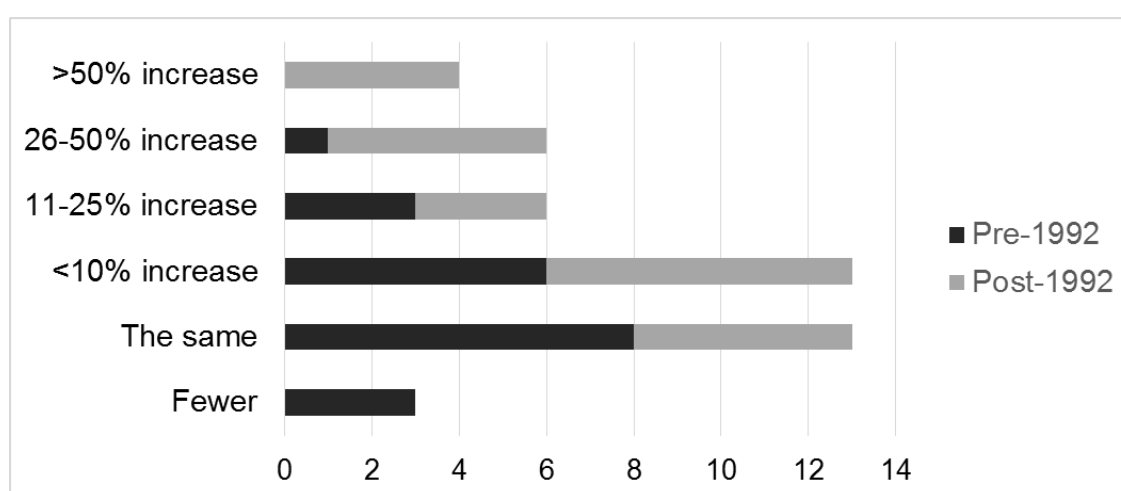


Figure 5 Number of institutions anticipating different possible growth scenarios for their total PD enrolments over the next 5 years (based on 45 institutions' survey responses)

5.3.2. Expectations of the PD market

Separately survey respondents were asked about their expectations of change in the professional doctorate market as a whole over the next 5 years. This revealed a broad range of views, including a great deal of uncertainty, but with a general expectation of some growth in the total market, although with disciplinary variability. Several expected further growth in established markets such as health, especially, psychology and education, while others felt that growth increasingly would be within new market niches. Around one in five did not know how the market would change overall.

Those who had ideas about growth expressed quite a wide range of rationales:

- Most commonly, this was based on a broad expectation that PD provision would increase in relation to a growing need in the labour market generally to upskill staff;
- A general shift towards greater interaction between institutions and employers could result in a greater emphasis on professionally focused doctoral provision;

- General 'degree inflation' could lead to an increase in those seeking doctoral-level qualifications in order to differentiate themselves in the labour market;
- Current students might delay postgraduate study until somewhat later into their career, as a result of accumulated student debt, making part-time professional models of doctoral study in mid-career more appealing;
- The potential for increased demand from international markets and/or as a result of the offer of online provision.

As an overall observation, these rationales for growth seemed not to be articulated with great confidence, with some factors being contradictory. It was also interesting to note that many respondents described the market in terms of the cumulative extent or range of institutional provision rather than the demand. More respondents considered potential demand from individuals than from employers – only around one in five mentioned issues or trends in employment or the labour market.

The survey prompted further responses in relation to the perceived impact of a number of current or recent HE policy changes. The majority of respondents did not think that there would be an impact on the PD market of the recent introduction of £9,000 undergraduate fees funded principally by student loans (i.e. the impact of greater accumulation of student debt). They reasoned that PDs were undertaken by mid-career professionals, who comprised a different market and would not (yet) be affected by issues of student debt. A number did believe that greater student debt threatened the level of participation in postgraduate study by UK graduates, more generally, but did not see a particular impact on PD participation. However, a few respondents believed that there could be a long-term rise in interest in PD participation, or other models of doctoral study that were part-time and accessible while continuing to earn, as graduates delayed entry to doctoral study due to greater indebtedness.

The Department for Business, Innovation & Skills (BIS) consultation into postgraduate funding was running at the time of the survey, and the opportunity was taken to ask if respondents saw any potential impact of the proposed doctoral loans scheme on PD participation. The majority felt that there would be no impact, either because they felt that such a scheme would have little impact on demand for any kind of doctoral study, or because they felt those considering a PD model would not be eligible for a loan which mostly likely would be age- and/or income-contingent. A few did suggest that the level of funding proposed could be sufficient to encourage those considering part-time doctoral study (who could not afford to do so otherwise), but this too begs questions of income-contingency. It is interesting to note the extent to which institutional respondents assumed, in their responses, that PD candidates would be self-funding, as relatively few (other than for full-time psychology programmes) responded to the effect that they expected an employer to pay the fees.

Survey respondents were also prompted specifically about the international PD market, and perceptions of the extent to which UK PDs are internationally competitive. Over half felt unequivocally that UK PDs were competitive, while a substantial minority (around one in four) did not know and a small number thought the reverse or that the position was discipline-specific. The majority who believed that UK PD provision was competitive internationally did so on the basis that they had significant international enrolments on

their programmes, although a number stated that they felt there was little international understanding of the UK’s professional doctorate qualification. Several mentioned that the UK was thought to offer the “gold standard” in terms of doctoral provision and training more generally.

In relation to possible international competition for their own programmes, the picture was very dependent on discipline. Those with DBA provision said that they were aware of strong international competition in the business school market (and those launching such provision reported that they were doing so in that knowledge), while many others stated that their programmes in health or psychology were firmly local in orientation and had been designed to support specific UK employment needs or clinical contexts. The perceptions in relation to the EdD market were more varied, with several mentioning that the model had been designed for a local market but others reporting success in exporting it to new international audiences.

There was little or no mention of competition other than in relation to the ‘main’ four subject areas, suggesting that other niche provision is launched in relation to perceived local demand, rather than international.

5.3.3. Trends by subject area

Institutional survey respondents were asked to give an idea of the extent of change they expected in the number and range of PD programmes their institution provided over the next 5 years. Roughly one-third did not seek any change in number (and three institutions expected a decrease), but two-thirds anticipated expansion in the number of programmes (Table 11). In turn, amongst those anticipating expansion, around a third expected more programmes to be launched in their current subject areas, while the majority expected to see new programmes in other subject areas. Around one in six of these institutions expected significant growth in their provision (i.e. more programmes in the same and in new areas).

Change in overall provision	Change in profile of provision	No. of institutions
Decrease		3
No change		16
Expansion in number		32
	More in same areas	10
	Launches in new areas	23
	Significant growth	7

Table 11 Survey respondents’ expectations of change in their institution’s provision of PD programmes over the next 5 years (based on 51 survey responses)

The relatively greater expected expansion in numbers of programmes compared with that in the expected total number of enrolments suggests that numbers of enrolments per programme will remain modest, within this growth agenda.

These expectations differed somewhat with broad type of institution. Pre-1992 institution respondents were roughly evenly split between those expecting expansion and those expecting no change. However, seven in 10 of the post-1992 institution respondents anticipated expansion, and all the institutions that anticipated significant growth were post-1992 institutions.

These responses indicated, overall, both an expansion in total provision in terms of programmes, although not by all institutions, and also a broadening of provision in terms of disciplines. Some additional programmes were anticipated in existing areas of provision, offering more specialist alternatives to established programmes, while the majority of the expansion was expected to be in new disciplinary areas.

In addition, when summarising the major changes that had taken place over the last 5 years in their PD provision, the most common responses were about launches of new programmes, but there were also many instances of reviews of existing programmes and/or programme closures. These suggest a general volatility in the market, which seems likely to continue.

5.4. Employer perspectives on demand

It was clear from many of our interviews with PD candidates and alumni that their employer had very little, if any, influence on their decision to undertake a professional doctorate, and the input of their employer during the PD programme was minimal or non-existent. However, the situation varied strongly with the disciplinary area.

Based on the testimony of current candidates and programme leaders, participation in psychology and, to a lesser extent, health-related programmes is essentially driven by employer demand, whereas this varies much more substantially in other areas. Some current EdD programme candidates reported that their employer had encouraged them to undertake the PD, but this was most frequently the case where the employer was the HEI providing the PD programme to its own staff. For those participating in DBA programmes, employer support or demand seemed to be very variable, and this seemed also to be the case for other 'niche' areas where evidence was obtained.

This variation was also reflected in the nature of PD funding (see also section 6.1.1), where it was observed that the most common instances of employer-funded participation were for psychology-related, and to a lesser extent health and DBA, programmes, but also where HE institutions were funding their own staff to undertake a PD programme.

With this backdrop of apparent varied demand and interest from employers, a number of perspectives were obtained from key employment/professional bodies which could provide an overall understanding of employer attitudes in their sector. These broadly confirmed the observed variations in the significance of employers' drive for participation, across different subject areas.

Representatives at Health Education England (HEE) confirmed that there were currently mixed views about the value of a PD qualification in the NHS. It was reported that the National Institute for Health Research (NIHR) does not currently accept PDs for any of its current fellowship schemes, as the PD is not deemed sufficient to support a move by clinical staff into a clinical research career (a PhD is required). There was current debate about whether to accept a PD for transfer into clinical academic careers (i.e. to a Clinical Lectureship or Senior Clinical Lectureship in the HEE/NIHR Integrated Clinical Academic Programme), as it is not currently accepted. However, PDs were still considered to be a useful qualification for upward staff progression for those seeking to remain in purely clinical work.

The position for pharmacy was somewhat similar, where it was reported that there was a sector need for doctoral qualified staff at consultant level, for example to lead and conduct clinical trials. However, there appeared to be some doubt that a PD was the right programme to use for such upskilling, as it was less well understood than the PhD (and in the absence of formalised clinical academic progression “ladders”). It was felt that the role of formalised workforce planning was lessening in the current NHS employment environment, and so the onus was likely to be more on individual staff to make the case to undertake a PD, rather than following a formalised progression route using a PD. This, in turn, it was intimated, would mean that HEIs would need to create PD opportunities and promote the value of their programmes to individuals, rather than responding to overt employer demand.

Clinical psychology presented a different view, as legislation drove the need for individuals to be qualified at doctoral level in order to be licensed for practice, as insufficient learning could be accommodated in a Masters programme. There continued to be central (or, more specifically, regional) funding of health service employees to participate on clinical psychology PD programmes, which were highly competitive as a result, and this was expected to continue for the foreseeable future. The situation for counselling PDs was contrasted, where central funding was not available, which resulted in much lower levels of participation on these programmes.

A representative of an international body representing DBA providers indicated that they observed a trend towards progressively higher proportions of PD candidates being self-funded, with fewer and fewer employers funding DBA participation, and some indication that support for participation (in terms of study time, for example) was also decreasing. They put this trend down to progressive “tightening” of economic activity, i.e. that organisations were increasingly focused on delivery of current business rather than long-term investment in upskilling of staff, due to shorter-term financial priorities. This seemed to have resulted in a reduction of demand from large public sector organisations (where the overall funding environment was more challenging), the third sector and private sector enterprises.

Thus, although only a restricted number of specific professional perspectives were obtained in our research, they serve well to confirm the messages from institutions and current PD candidates that employer demand for PDs is not widespread, but rather is both highly profession- or discipline-specific and overall tends to be decreasing.

5.5. Impact of supply and demand on institutional strategies

These findings together provide insights into the market for PD provision. The anticipation of new programmes in existing and new areas, within a broad expectation of gentle total expansion in numbers of participants, together with evidence of recent closures, combine to suggest a somewhat volatile and delicate market. This can also be inferred from the programme-level data, which showed decline in numbers enrolled in certain mainstream areas, consistency in others and (more modest) rises in new disciplinary areas. The lack of new enrolments on 35 of the 100 programmes about which detailed information was obtained also signals that demand is varied and clearly weak in some areas (and perhaps brings into question the extent to which provision is demand-led).

These insights were strongly corroborated in some of the interviews with institutional staff. At one institution, in which a significant proportion of all its doctoral provision was in the form of PD programmes, an interview with two programme leaders – one of PDs in a ‘traditional’ area and the other in a ‘new’ niche area – and a senior member of institutional staff was particularly illuminating. They had been recording falls in the numbers enrolling in their well-established health and social care programmes for some time, although partly offset by hosting PD candidates who had transferred from an institution which had ceased its provision. They also noted reduced interest, funding and support from health sector employers, as the workforce upskilling agenda that had previously supported participation in PDs had become less influential in the face of other, more immediate priorities. This had reduced or stemmed the flow of new candidates. Additionally, new working cultures within the NHS were less receptive to requests for local supervision or support of candidates, and the reduction of rights to study time. Thus enrolments were lower than a decade ago and declining. At the same time, the institution was opening up new PD programmes in a variety of niche areas, seeking to capitalise on pockets of academic strength and international reputation in order to enter new markets. This was proving successful in terms of opening new programmes, although the numbers enrolling on these tended to be modest. They also noticed that the demand from potential UK candidates (and employers) in these niche areas tended to be relatively short-lived, the effect of which was exacerbated when other institutions opened similar programmes. Within a narrow professional niche, the potential demand for study at this level was soon exhausted, particularly as face-to-face programmes rely on candidates being geographically close (relatively) to the institution. This led to a need for international enrolments in order to sustain numbers on the maturing programme, although it had not necessarily been launched with the international market foremost in mind, and the international market was not always strong. The institution recognised that in order to sustain the overall extent of PD provision across the institution, it needed to maintain a rolling strategy of opening new programmes in new areas, to compensate for declines in enrolments on some mature programmes.

There was evidence from other interviewees of similar declines in some ‘traditional’ programmes, particularly but not exclusively health and social care. This resulted in the development of alternative programmes in these areas, in some cases on narrower or more specialist themes, and/or new programmes in new areas, not all of which were successful in terms of recruitment. There were cases where new programmes had very few enrolments. This growth in numbers of programmes inevitably leads to more

competition in those areas of the market, particularly of the UK market. As one senior staff member put it:

“I’m not sure how long-lasting the buoyant market will allow us to keep increasing the number of PD students. We will need to introduce new PDs to meet the needs of different professions. To expand we’ll have to introduce new PDs and look to new markets.”

There has been considerable growth in DBA programmes in recent years, but one provider (a specialist institution) noted that the market had become “difficult”. This was thought to result from industry investing more cautiously in staff development, and allowing less flexibility in the workplace to learn or study as staff are increasingly performance-orientated) but also because of an increasing range of providers at a range of prices in this commercial and international market. The interviewee noted that the proportion of candidates who were self-funded was rising fast, whereas 10 years ago most were employer-funded.

It seems clear that the dominant PD model is based on a response to (or perception of) local professional needs and, other than in the DBA market, expansion of the model internationally happens somewhat opportunistically if appropriate.

It was also notable that a number of institutions had developed or were exploring partnership agreements with institutions overseas, as a means to access international markets. The increasing use of distance learning for the taught element of the PD programme means that the PD programme can fit well to a transnational education (TNE) model of delivery, i.e. study of a programme and obtaining an award outside the country of the institution making the award. It also means that the historical need for regular physical access to the institution, particularly for the taught programme phase, reduces, and so candidates can potentially also be drawn from a wider range of UK locations, increasing the potential UK market for the particular programme.

Certain clinical psychology programmes seemed to be secure in terms of levels of enrolment. As a professionally validated pathway to obtain a licence to practise, and fully funded by the NHS with a good stipend, and guarantee of employment afterwards, competition was naturally intense in terms of applications, as numbers are restricted directly by the funder. However, it should be said that this apparently healthy position is almost entirely reliant on the NHS as funder and dominant employer.

6. Study experiences and impact of professional doctorates

6.1. Study experiences and challenges

6.1.1. Funding and employer support

Of the 30 current PD candidates and alumni interviewed during the project, almost half were fully self-funded, including candidates on DBA, EdD and niche programmes. Of the remainder (i.e. those who were funded by their employer), around half reported that they were fully funded by the employer, while the others were partially funded and covered the remainder of the fees personally. No other sources of funding were mentioned. Although the sample cannot be taken as representative of the PD population overall, it was notable that those who were fully funded were either staff working in the HEI offering the programme or candidates working for the NHS who were undertaking a health- or psychology-related programme. However, not all those on health-related programmes were fully funded by their employer (usually the NHS).

Perspectives from programme leaders were also insightful. One DBA programme leader commented that currently around half of their current candidates were wholly self-funded, and that this proportion had grown significantly in recent years. DBA programme fees tend to be much higher than for other PDs and pitched on the basis of “what the market will bear” (partly in the context of high MBA fees), so this represents very substantial financial investment by the individual.

The leader of a relatively new DPharm programme (which had very low fees) believed that most candidates were at least partly self-funded, while the leader of a “niche” programme reported that the majority of its candidates were self-funded and that this could result in some non-completion – and some candidates had switched to PhD programmes for which they were able to obtain some financial or scholarship support from the institution or an external source.

The funding of clinical psychology programmes appeared to be a major exception, where full funding of the programmes is currently provided by the NHS. Outside this disciplinary group, for all the other programmes discussed (including EdDs), the general perception from programme leaders was that most candidates were at least partly self-funded and some wholly, and that this was now the norm.

On a purely economic basis, this position seems to imply that there is not great demand from employers for PD programmes in most disciplinary areas.

In relation to other types of support from employers, the PD candidates and alumni interviewed described a range of situations. In around half of cases, the employer had not been involved in the decision to pursue the PD programme, and in only a handful had it had a proactive role. Only one of the interviewees reported that they had an additional PD supervisor based in their employer (other than those who were HEI staff), although a few others indicated that they had periodic informal “supportive conversations” with a professional colleague.

In most (but not all) cases the employer was aware that the candidate was undertaking the programme and made some allowance in terms of time to support them in doing so. This took a wide variety of forms, from allowing a number of study days per year (generally a handful, which was considerably less than the expected number of contact days), to occasional short 'chunks' of time (for example to undertake particular fieldwork). More commonly, however, the candidate was allowed to work in a somewhat more flexible manner in order to accommodate their PD study, although in most cases the candidate found that their day job fully occupied their working hours and had to take priority, so this flexibility was entirely hypothetical.

Therefore, in almost all cases interviewed, candidates undertook the majority of their study activity in their spare time and within their annual leave entitlement. In one or two instances this was made easier as the candidate had agreed with the employer to reduce their employment basis to part-time, allowing them more time to study.

Although the supervisors and programme leaders were not always familiar with how their candidates organised their time between study and work, one programme leader in the health area noted that progressively it had become harder to elicit support from the employer to supervise or mentor a candidate. His HEI had ceased trying to find an employer-based supervisor for each candidate, for this reason. He believed that this was the case because of a shift in working culture towards management by performance against targets, within which providing support to a staff member on a learning programme was not a priority activity.

From this it could be seen that the PD programme represents a major investment in personal time, in addition to financially, for candidates whom, by definition, will mostly be in challenging mid-career jobs as well as having many other responsibilities including home and/or family.

6.1.2. PD cohorts and integration with other researchers

Almost universally, the PD candidates and alumni interviewees reported positively on the role of the cohort within which they had studied. The extent to which they met the cohort depended on the programme delivery format and in many cases varied as they progressed through the structure of the programme, from the more cohort-based taught phase to more individual research activity. On the other hand, as the taught element of some programmes was entirely by distance or online learning, there were also isolated cases where a candidate had never met their cohort colleagues, although they had the opportunity to interact through online discussion forums in which supervisors or tutors also participated.

However, in most cases, the programme was structured deliberately to foster cohort-based relationships and peer support, whether through residential modules or planned study days. The candidates reported that these were invaluable in a number of ways, and several reported that without the support of cohort colleagues they would not have completed the programme. Cohort interactions were not only supportive in that collegiate sense, i.e. sharing of experiences and an element of "common suffering", but were also reported to be a valuable means of learning, by sharing insights into their own professional settings and their research and learning challenges.

Interestingly, one of the PDs we investigated in depth was the PD in practical theology, which was designed to operate as a single cohort across around six delivery institutions (four in England), as the size of cohort in any one institution is limited (and there may be a sole supervisor in that institution). The programmes are planned so that candidates across institutions are invited to bi-monthly study days that take place in a range of locations, as well as a bi-monthly supervision day in their own institution. The interviewees reported that this model worked very well, and that they gained great value from the shared insights available, particularly when reflecting on practice, on the joint study days.

When probed about the extent to which PD candidates believed they were integrated with other researchers in their institution, candidates' responses were relatively consistent in suggesting that there were a few, but not many, opportunities to interact with other doctoral researchers or research staff. This seemed largely to depend on their particular supervisor, some of whom deliberately fostered interactions between their PD and PhD supervisees, although many appeared not to do so. More commonly, there were relatively formal opportunities for interaction, such as through an annual doctoral conference or similar event, at which they could meet other researchers in their institution who were not in their PD cohort. On the joint study days of the practical theology PD, it was reported that there was often an invited PhD or other researcher presentation. However, overall, the trend seemed to be for PD candidates and cohorts not to be closely integrated within their institution's research community, which was largely put down to their physical absence from campus for most of the time.

Institutional survey respondents were asked to consider the extent to which training within PD programmes related to other cohort-based doctoral training. A number of respondents in pre-1992 institutions that had Doctoral Training Centres (DTCs) or Partnerships (DTPs) reported that this training was not aligned with training in their professional doctorates. There were a few examples reported where research methods, modules and some other taught components were common to both PD and PhD/DTC programmes, but this was rare. In general it was reported that the core subject-specific training for PDs tended to be delivered by individual academic schools, whereas some PhD cohort training was organised at institutional level which made integration between core training for PhD and PD cohorts more difficult, although some institutions were now reviewing this.

A handful of post-1992 institutions reported that they had elected to develop a generic training model for all doctoral candidates, as they found that it fostered and enriched peer-sharing of work in similar disciplines where different research perspectives are taken. It also tended to make economic sense in a smaller institution, and where doctoral cohorts were generally small. However, this appeared to be rare.

Where there was some extent of integration, this was in relation to access to professional development, with many institutions reporting instances of PD candidates having the same opportunities as other doctoral researchers to participate in the institution's researcher development programme (which was open to all doctoral researchers). In some cases this was effected by making materials and resources for PhD programme researchers being made available online to PD candidates too (both where the PD programme was delivered face-to-face or online). Some programme leaders interviewed, however, reported that the level of engagement of PDs in this training was low. In several cases this was put down to timing, as PDs tended to be at work during the week and on

campus only in blocks or at weekends, which was not when other training was scheduled. It should be noted that it is usual for PD programmes to contain elements of this training within their taught stage and, since most PD candidates are mid-career professionals, it may be that their need for professional development is much lower than for many PhD candidates, particularly those aspects designed to enhance potential employability.

6.1.3. Personal challenges and non-completion

There was no doubt that the biggest challenge reported by PD candidates to successful participation and completion of their programme related to practical issues. All the candidates and alumni interviewed who had been in employment when their study started asserted that they had struggled (to varying degrees) at some point with the physical and mental capacity to combine high-level study, the demands of (sometimes senior level) professional employment and commitments to family and home. Many of the mid-career professionals to whom we spoke appeared to have relatively stable home circumstances, which in turn meant that they tended to have commitments to a partner, and to children, as well as other family responsibilities. An illustration of the extent of commitment required was given by one PD alumnus who estimated that the time requirement for his DBA had been 4000 hours, which over a 4-year programme was an average of 20 hours per week, which was challenging alongside a full-time job.

Although some of the time commitment was in the form of residential blocks of study, the majority was self-study or research in evenings, at weekends and on days of annual leave. It has been noted elsewhere in our research that the availability of paid study leave from employers has decreased and that many candidates have no entitlement to it (and some have not informed their employer that they are participating in their programme).

Although many had managed to overcome this workload challenge through very strong motivation and/or organisational skills, most of them reported that they had had periods of crisis during their programme, as is also commonly the case for those on part-time PhD programmes. Some had been forced to intermit for a period of six months or a year – and many programme leaders cited examples of current absences within their cohort – due to a need for them to focus on their professional commitments. Candidates reported high levels of support and understanding from their cohort, and several stated that without the support of the cohort that they would have given up.

Where candidates managed to achieve the requisite workload balance and complete their programme, they reflected that the process of undertaking the PD, alongside other professional and personal commitments, had led to them gaining a resilience that stood them in good stead for any future challenges which they were confident they could overcome.

Other challenges reported by candidates and alumni related to the intellectual demand of the programme, which could be a shock, particularly after a long period away from academic learning: some who had not studied at Master's level found the jump particularly difficult. This was also articulated as the difficulty of transferring between an essentially pragmatic approach at work to an academic approach during study, and back, on a regular basis. A number had found the choice of a research topic difficult. Some candidates also commented on feeling isolated, as they had to focus very much on their

research and work, and one reported that his peers at work had become somewhat suspicious of him as his attitude to work became more critical. Others, in turn, found deep reflection on their practice could be very challenging personally.

A number of other practical study-related challenges were reported by candidates, supervisors and programme leaders. For example, some candidates had to be transferred to another institution's programmes as a result of their programme closing when they were part way through, and some candidates had a change of supervisor due to their original supervisor leaving the institution. Given the relatively long duration of many PD (and part-time PhD) programmes, up to 7 years plus possible periods of intermission, the chance of a supervisor moving during a candidate's programme inevitably is higher than for a full-time doctorate, and potentially more difficult for the candidate as their supervisor will have been the main point of contact with the institution.

In an environment where increasing numbers of PD candidates self-fund, the 'affordability' of programme fees is also an issue, particularly as many considering undertaking a PD programme are at a stage of life when other financial outgoings are high (particularly in relation to supporting children and family).

Clearly, not all PD candidates are able to cope with all of these challenges, and there was evidence in the interviews with programme leaders that some candidates drop out of PD cohorts, either directly or by not returning after a period of intermission.

There was also a modest but significant number of instances reported by programme leaders where a PD candidate had transferred to a PhD programme. Some of these transfers had been encouraged by the supervisor, on the basis that the selected research project had evolved away from a focus on reflective practice and in an academic direction. One or two of these situations were described by the interviewee as the research being "good enough" for a PhD, which suggests perceptions of inequivalence between PDs and PhDs.

Perspectives on completion rates were obtained in the survey of institutions, and interviews seemed to confirm that the broad expectation was for around two thirds of candidates to complete, although this was much higher for those on full-time, fully funded psychology programmes. For comparison, average completion rates in the UK for part-time PhD programmes have been recorded as 35% within 7 years and just under 50% within 10 years, suggesting that completion rates amongst PDs may be higher.

6.2. Purpose and impact of PDs

In this section we attempt to review and synthesise a variety of perspectives on the potential and/or realised impact of a PD. This encompasses the intended purposes of the programme from the institutional viewpoint and the motivations of the individual to undertake it (and/or the employer to support it), and the extent to which these purposes are fulfilled and the programme results in impact. There is significant established literature in relation to purpose, but far less in relation to realised impact.

For each theme here, we aim to provide background from the literature as well as new and/or confirmatory perspectives from our research.

At the most basic level, PD programmes are designed to advance knowledge and professional practice through doctoral level study in a professional field. Most PDs aim to attract those working in professional environments and to meet the needs of the professions in which they are rooted (QAA, 2011, p.15). Many PD programmes also claim to address the career needs of practising professionals, particularly those either in or who aspire to senior positions (Bourner et al., 2001).

6.2.1. *Candidate range and motivations*

The literature suggests that PD candidates in the UK are typically, although not always, senior professionals who have accrued considerable professional expertise (Powell and Long, 2005). They are likely to embark on PD programmes for purposes that can be collectively classified as 'professional extension' (Costley and Lester, 2012, p.258). Typically they are interested in applying an enquiring approach to exploring real-world problems within their professional context, and to producing knowledge that is directly applicable to their practice (Costley and Armsby, 2007; Costley and Lester, 2012; Doncaster and Lester, 2002; Wellington, 2013).

Candidates' motivations for undertaking a PD are often related to their desire to develop and enhance their career and/or to personal fulfilment and intellectual challenge (Scott et al., 2004; Wellington, 2013). Bourner et al. (2001, p.81) found PDs to be attractive to those who viewed their personal development and academic ambition as fully integrated with their professional development, and who had a commitment to furthering the cause of their profession.

In some professions, the PD appeals to recent graduates and early-career practitioners, where the PD is considered a baseline entry requirement for professional practice (QAA, 2011), such as PDs in Clinical Psychology practice (e.g. DClinPsy; Costley, 2014).

Scott et al. (2004) argued that candidates' motivations for undertaking PDs could be classified into four categories:

- (i) **Extrinsic Professional Initiation**, those who directly identify their doctorate with career development and accelerated promotion.
- (ii) **Extrinsic Professional Continuation**, where a candidate is reasonably experienced and established in their professional field but wants to further develop their professional career either in line with existing work or by providing new opportunities for diversifying career options.
- (iii) **Extrinsic Professional Alteration**, where the candidate views the doctorate as a vehicle for changing, affecting or making a contribution to an aspect of their practice.
- (iv) **Intrinsic Personal/Professional Affirmation**, characterised by those placing an emphasis on the PD for providing intellectual stimulus and personal fulfilment.

The current PD candidates and alumni interviewed related a range of experience as professionals, from mid- to senior-career (as well as one who was approaching retirement and one who had actually retired). Although the range of professional sectors in which they worked did not reflect the full range or balance of PD programme provision, the four main subject areas were represented, and some 'niche' programmes. The DClinPsy,

which has an atypical position in terms of being an early-career pathway into practice was excluded. Interviewees were split roughly evenly into those working for a HEI, those working for public sector organisations (including in education and health) and those working for other organisations (which included the church).

Individuals' rationales for participating in a PD corresponded well with Scott et al.'s groupings (ii), (iii) and (iv), outlined above. Grouping (i) was not represented as we deliberately did not interview participants on programmes qualifying them directly to enter a profession, such as the DClinPsy. However, most interviewees tended to express several of these rationales to varying extents in combination. In the majority of cases, there was no single objective or rationale, but their decision had been taken on the basis of multiple potential impacts, and in some cases also an element of opportunism in the sense of taking advantage of particular circumstances.

The three most commonly cited motivations for undertaking a PD were to enhance their practice ('extrinsic professional alteration'), to improve their career prospects through promotion in their current direction or enable a possible change in career direction ('extrinsic professional continuation'), and to take a deeper academic interest ('intrinsic affirmation'). However, in all cases (other than the retiree), those expressing an interest in developing a deeper intellectual understanding of their subject were doing so in order to both increase their fulfilment at work, but also to enhance their practice. Equally, by enhancing their capability as a practitioner or professional, several said that this could open up the possibility of more senior positions (i.e. career enhancement). Arguably, in almost all cases, aspects of all three of these main motivational rationales were displayed by most individuals, even if they did not articulate all of them overtly.

In general, the PD candidates had reached a level in their practice where they sought more personal satisfaction from and wished to make a deeper contribution through their work. In a number of cases this coincided with an innate drive to pursue further intellectual study. (Notably several of the candidates had previously undertaken distance learning at Master's level, and were, to some extent, "serial learners"). Some of the DBA candidates expressly entered their programme as they needed professionally to "solve" a particular problem or issue as part of their work.

Examples of this combined motivational thinking were common and included individuals who decided to study for:

- A DBA in order to resolve limitations in their company's ability to develop and benefit from acquisitions it had made, but also partly to respond to a desire to study again some 20 years after their first degree, albeit that they had little interest in the actual qualification;
- A DPharm programme in order to be able to improve pharmacy practice through evidence-based improvements to procedures, but also to be more in tune with new entrants to the profession whom they advised educationally in another part of their role. They were also aware that most people in more senior positions had a doctoral qualification;
- A DProf in order to develop their practice but also to gain credibility as others in their workplace at that level of seniority tended to have a doctorate.

There were, however, also examples of a “simpler” rationale in which a single objective was dominant:

- An EdD candidate who was in a senior university position who recognised “*as I go further up the chain, the need to have a more advanced (doctoral) degree is essential*”;
- A DBA candidate who eventually wanted to leave their employer and work in a different area, potentially as a consultant, and needed to develop high expertise as a specialist (and who undertook the programme without their employer’s knowledge);
- A DPraCTheol candidate, approaching retirement, who believed their practice would improve through much deeper understanding and insight;
- A ‘niche’ PD candidate who wished to update their own practice in response to a rapidly changing professional practice environment.

In most cases the candidate had also considered other forms of doctoral programme (i.e. a PhD) but selected the PD model for the practical reason that it had been specifically designed for professionals to study part-time while in employment. Some candidates expressed scepticism that a part-time PhD would be achievable in the same way. Others felt that the particular structure of the PD programme would enable them to progress and succeed, by virtue of one or more of the following:

- Re-introducing them to learning during the taught phase;
- Specifically undertaking research that was in their particular area of practice;
- Obtaining support from a cohort of candidates in a similar position.

The majority of PD candidates admitted that they were particularly self-motivated individuals, and many had experienced self-study previously while working, which gave them some confidence that they could cope with the demands of the PD programme.

The most commonly cited motivations by individual candidates (enhancement of practice, improved career prospects through promotion or directional change, and deeper academic interest in their profession) were reflected in the perceptions of senior institutional staff, although some were articulated in slightly different ways. For example, some HEI senior staff perceived PDs as being ‘validation of professional experience’ and/or the opportunity to engage with academics or academic thinking, rather than focusing on the potential for professional improvement.

There was a much more overt expectation reported by senior HEI staff responding to the survey, particularly those in pre-1992 institutions, that the PD would ‘confer’ career advancement, in terms of job or salary progression, than was expressed by most candidates. Senior HEI staff perspectives seemed to reflect an expectation of a more direct and discrete progression benefit of a PD within a linear career. Admittedly some of the candidates were progression-driven (for example, clinical psychology candidates and some HEI staff), but many were more interested in the long-term potential of the PD to increase their credibility in their profession or to enable a change in direction.

6.2.2. *Impact of professional doctorates: skill and knowledge development*

QAA regulations state that all doctorates require the candidate's work to “*contribute to existing knowledge in the subject discipline through original research or the original application of existing knowledge or understanding*”. For professional doctorates, however, there is an emphasis on the research having a direct effect on improving the professional practice of individuals and their host organisation and also the acquisition of professional skills (QAA, 2011).

In the conceptualisation of Mode 1 and Mode 2 knowledge production developed by Gibbons et al. (1994), Mode 1 knowledge is concerned with traditional academic content, while Mode 2 knowledge involves high levels of reflexivity and is concerned with the context of application. There is an assumption that, broadly speaking, Mode 1 knowledge underpins the PhD and Mode 2 the PD (Lester, 2004). Thus, Mode 2 knowledge is developed when a candidate works within their practice to develop new ideas and new knowledge through rigorous approaches that can then be applied to practice (Fulton et al., 2012, p.132). Inferences to Mode 2 knowledge appear in many programme descriptors for PDs.

Those graduating from a PD programme (i.e. PD alumni) have been reported in the literature to have developed a range of transferable skills, attitudes and abilities as a result of their PD study (Burgess et al., 2013; Burgess and Wellington, 2010; Wellington and Sikes, 2006). PD alumni have narrated their PD journey in academic as well as professional terms, implying that the development of more sophisticated theoretical ideas was a satisfying end in itself (Pratt et al., 2015, p.51). They have reported an enhanced self-awareness and reflective approach to practice (Burgess et al., 2011; Fenge, 2010; Wellington and Sikes, 2006), an increased sensitivity and tolerance to others' perspectives and viewpoints, and an openness to new or different ways of doing things (Doncaster and Lester, 2002). PD study also led to increased levels of criticality, the ability to think conceptually and apply this in everyday practice (Burgess et al., 2013), and increased self-confidence and self-esteem, particularly in relation to the PD alumni's professional practice settings (Smith, 2013, p.323). The enhanced credibility and personal confidence that developed as an outcome of undertaking a PD led to alumni wanting to act as agents for positive change within their professional setting (Carr and Galvin, 2003). A survey of EdD alumni found that their programme was beneficial in helping them make links between theory and practice, and led to them to reflect on their own professional practice, which in turn led to enhanced confidence in applying new knowledge and skills to that practice. The study also reported an impact on practice at the department and/or institutional level through the revision of teaching plans and policies (Butcher and Sieminski, 2006).

The PD candidates and alumni interviewed as part of this study reported that their PD programmes had led to them developing a wide variety of skills. In addition to different insights into their professional field and new research skills, these included a range of transferable skills including self-confidence.

In terms of **specialist knowledge and skills**, interviewees reported that they had gained greater academic understanding of their field and greater engagement with theory, both through taught specialist modules and particularly the literature review they undertook as part of their research.

A significant element of many taught programmes was **research methods and analytical techniques**, as a result of which interviewees reported enhanced capability to plan and undertake research within their professional setting when the need arose:

“There are a lot of methods I hadn’t thought about and their application”. (EdD)

Many also talked about strong development of their **reading, writing and presentation skills**, especially writing. Their writing abilities were enhanced in relation to academic writing for publication but also, in some programmes, writing for other audiences including within their profession.

“I’m likely to publish in an academic journal; that is something expected of me but something I didn’t think I would ever do, but writing the assignments for the EdD has given me the confidence and the skills”. (EdD)

“They’ve given me insights into different ways of presenting information to people with different mindsets”. (DBA)

What was very consistent and more prominent was the extent to which interviewees reported developing a **more analytical and evidence-based approach** in their work. Many reported on how – even during their programme – they were starting to question assumptions behind procedures and decisions:

“Now, I’m continually questioning. I really understand what is meant by evidence-based practice. I now question the evidence base that I used to take for granted”. (DProf)

“Is there really evidence that we should do it that way? How could we change the process and test whether it is better?”. (DPharm)

They articulated this as the development, sometimes overtly within their programme, of **critical professionalism**.

Related to this was the development of an understanding of the importance of reflection and becoming a **reflective practitioner**; development of a critical and reflective mindset appeared to be a main feature of learning throughout a PD programme:

“Learning about knowledge and how it’s framed... has helped me to have a wiser perspective and look behind what’s going on in practice a bit more, rather than accepting things at face value”. (DProf in health)

“It is challenging me to think (about) my own practice and teaching”. (DPracTheol)

“I think more deeply and more critically about my work now”. (EdD)

“It’s helped focus my thinking, yet at the same time to lift my head up and see things more broadly; it’s given me a different perspective on my practice”. (DProf)

This attitude of increased criticality and reflection led candidates to see the potential benefit of and appreciate **alternative perspectives** in order to understand issues more deeply. A number of them reported that a practical benefit of these new approaches was manifested in **improved construction of an argument**:

"I am much better at constructing an argument, so I have become more influential". (DBA)

"I am at a stage where I can finally defend my stance on my project". (EdD)

In turn, this contributed to greatly **increased confidence and credibility** which were perceived through the evolving attitudes of others, but also their own perceptions of value in comparison with their peers (particularly for those working in HE settings). There was also an increase in self-confidence through accomplishing the challenging combination of high-level study, work and family, and for some from the work they had had to face in negotiating access to research subjects through different bureaucratic channels within their practice setting:

"[It] massively increased my confidence and reaffirms my position in college [as an educator]". (DPraCTheol)

"I now know I can get through really challenging workloads and work situations. It's given me a different confidence to know I can do things". (DProf in health)

"I feel more authoritative when I am talking about [aspect of practice]". (DPraCTheol)

Taken together, these newly developed aptitudes affirm the strong development of particular research skills, new attitudes to practice and also transferable skills, through studying for a PD. This echoes the findings of a study commissioned by Research Councils UK on the impact of doctoral careers (CFE Research, 2014), which found that doctoral study improved confidence and perseverance as well as developing an enquiring mindset, enabled doctoral graduates to look at issues from a different perspective and communicate effectively, and made it more likely that their views and opinions would be listened to. They also confirm that the learning taking place is at level 8 and is overtly recognised by the candidates and alumni. Several interviewees reported that some of these developmental benefits began to emerge around 18 months into their programme, while others (particularly attitudinal changes) developed more progressively through and after the programme.

6.2.3. Impacts on practice and career

As we have previously noted, the literature suggests that PD candidates are expected to start with a 'problem' within their professional practice that they would like to explore (Bourner et al., 2001, p.72). The knowledge developed through this work-based learning is understood as emanating from, developed in, and providing change for professional contexts (Costley, 2013, p.21). Thus, PD programmes can be viewed as candidate-driven, and as emerging from context-based concerns, which affects the professional development of the candidate and uses an action-oriented research perspective to create practical development and change (Costley and Lester, 2012, p.259).

Doncaster and Lester (2002) found that work-based doctoral candidates undertaking a generic PD typically described the capabilities developed through their doctorate in terms of both 'outer' dimensions, concerned with value to the organisation, such as actions, achievements and effects, and 'inner' dimensions concerned with attributes such as abilities, skills and dispositions. Amongst the 'outer' dimensions, candidates reported

increased capabilities to develop new products, systems, policies or practices, and to initiate or manage change in their organisation or working environment. In terms of 'inner' dimensions, candidates reported enhanced abilities in working with people, including the ability to inspire others, as well as improved self-organisation and leadership ability, i.e. transferable skills.

Burgess et al. (2013) also reported that, in some cases, PD candidates encountered negative experiences, where those in more senior professional roles felt uncomfortable about a member of staff in a less senior role undertaking a doctorate. Additionally, PD candidates commented that criticality, which is an essential part of PD study, was not always welcome in the workplace.

PDs have also been reported to play an important role in increasing collaboration between universities, business and industry, and hence in making a contribution to the UK's economic growth (Brown and Cooke, 2010, p.6). They contribute to the development of workforce research, organisational, management and leadership skills (UKCGE, 2002), and, according to the QAA, "*In professional and practice-based doctorates the research may be undertaken in the workplace and so [they] have a direct effect on organisational policy and change, as well as improving personal practice*" (QAA, 2011). Candidates undertaking PDs develop knowledge that is relevant to professional practice in the workplace (Bourner et al., 2001; Scott et al., 2004; Rolfe and Davies, 2009), and Lester (2004) has suggested that the purpose of the work-based doctorate can be described through the outputs it makes in terms of making a significant and original contribution to practice that is of public value.

In a comparative study of the experiences of PD candidates in different subject areas (Thorne et al., 2002), the contribution to workplace practices was found to vary considerably. For example, there was relatively little evidence of the EdD having a tangible impact on the employment culture of the alumni, whereas there was evidence that EdD candidates had indirectly used their EdD as an opportunity to reflect on their practice, and to further develop professionally relevant knowledge, which in turn had an impact on their employment. For DBA candidates, however, the impact of their study related to developing and enhancing individual consultancy skills (Thorne et al., 2002).

Although more of our interviews were with current PD candidates than alumni, we could see clear evidence from both for a range of these types of impact. The DBA alumni interviewed reported a strong range of benefits. They had participated in the PD programme partly to "solve" specific problems in their working practice for which there had not hitherto been (known) solutions. Through their PD training and research topics, they had developed approaches and solutions which they put into practice with their employer, leading to tangible improvements in productivity and profitability. In one case, this turned an aspect of a company's business into profit for the first time. Improvements to practice in other professional environments were reported from other PD programmes, such as improved teaching or enhanced processes or procedures.

There were other examples of improvements to practice and also an element of capacity-building, partly as a result of the increased confidence and authority that came with PD study. A DPharm candidate reported that they now had the confidence not only to question a process and evaluate alternatives, but also to share their findings with other health service organisations. The extent to which increased reflection on practice was

impactful depended partly on the profession, but for some clergy and educationalists this was reported to be very strong.

The development of 'critical professionalism' was seen as a strong positive impact:

"It's more than met my expectations, I hadn't anticipated how much more critical I would become about everything". (DProf in health)

In the case of one EdD candidate this additional gravitas meant that she took on mentoring of new academic staff, and her voice was also now sought in relation to workplace change management decisions and implementation. However, in rare instances, it was seen in a negative light, such as a DBA candidate reporting that colleagues in his organisation (outside the UK) were suspicious of his new questioning attitude and worried that he was becoming "a boffin" rather than an entrepreneur.

Career-related benefits could differ in terms of direction. A DBA alumnus reported that he became more influential and made better decisions for the organisation as a result of the DBA, and had progressed to a high level in the organisation. For many of the EdD candidates, obtaining the doctoral-level qualification itself had been a strong motivating factor as it was a requirement for entry to a job or level of seniority, and there were several cases amongst the alumni where this had successfully been navigated. There were also cases of enhanced credibility in professional practice:

"Now, having the prefix on my name, people treat me a bit differently... it helps to put it on a letter in my clinical practice". (DProf in health)

In other cases, a change in career direction had resulted, such as one DBA alumnus for whom his PD research had provided a "technical toolkit" with which he could start a consultancy, extending the range of implementation areas for the new approach he had developed. The potential impact of a PD in terms of facilitating a change in career direction was significant for quite a range of candidates and alumni, although it had not always been their overt motivation, or at least was only contributory in their thinking. This is perhaps to be expected from an opportunity to reflect on one's professional practice:

"The PD is about individual professional development. I am moving away from thinking that academia is my home. I see far more interesting prospects for myself setting up my own consultancy". (EdD)

"I would like to go back to academia but I don't know yet". (PD in niche area)

"I was not looking for career progression but to gain a better understanding of research. However, it was pointed out to me... that I could get [now] involved in consultancy work and do some part-time lecturing". (DBA, working in HE)

Thus, evidence from PD candidates and alumni provided personal perspectives on a range of skill, career and professional impacts that emanated from both studying a PD programme and obtaining that qualification. The study on the impact of doctoral careers (CFE Research, 2014) found that doctoral graduate employees contribute to enabling innovations, increased absorptive capacity, improved profitability and greater productivity; as well as benefits to the individual.

7. Strategic issues, trends and challenges

7.1. Market challenges

The evidence obtained in this study demonstrates that while institutions are optimistic about at least modest growth in the provision of PD programmes, there are some inherent challenges in terms of the potential market. Labour market demand, i.e. from employers, has been strongest within a few large segments of the public sector, such as education and the health service, as well as from within HE itself. In health, including psychology-related professions, a single national employer or its derivatives (employers at a more local level operating within a national workforce framework) can provide a strong signal to institutions to provide training programmes to upskill staff and support their participation. However, these models are at risk to changes to priorities and funding in these large public sector employment areas.

Demand from other employers seems much weaker and is less strongly articulated. However, institutions are fundamentally opportunistic and encourage departments and faculties to innovate in the form of new programmes in response to perceptions of demand. In many cases these new programmes are in small niche areas, with demand that is neither large in scale nor certain to be sustained over time, and which may weaken as a result of growing PD provision by competing institutions. There is emerging evidence that many models may be unsustainable without international participation, the demand for which is harder to assess. Many models were set up specifically to respond to national demand or clinical/professional settings so may not be transferable internationally.

A further issue arises in the 'culture' of employment, where although upskilling is required in order to succeed in the knowledge economy, the underlying trend is financial belt-tightening, as organisations have narrower margins and can afford less time and investment for long-term upskilling of their workforce. This impacts on the willingness of employers to fund programmes, allow study time or provide workplace supervision or support.

A reflection of these trends is seen in the high and rising proportion of candidates who are self-funded. For prospective PD candidates, there are fewer funding options available in comparison with other doctoral provision.

A number of respondents noted that the international market for some of the major and mature programmes such as the DBA is quite challenging at present and that recruitment is becoming more difficult. This may be because the DBA is still not as widely recognised globally in the same way as a PhD, and is significantly more expensive. There is significant competitive international provision in this market, as well as to a lesser extent in the EdD market, but not yet in many other areas of UK PD provision.

7.2. Institutional strategies

Overall, our research suggests that much PD provision by institutions is somewhat opportunistic and in many cases not strongly strategic within their research priorities,

which perhaps reflects the autonomy given to individual academics and departments to foster new ideas for PD programmes.

Strategically, while some institutions think there are many good reasons for PD provision in a range of disciplines, research-intensive institutions are cautious about expansion. Many institutional respondents and interviewees believed that the PD could not be counted as a research degree for the purposes of the Research Excellence Framework (REF). In fact, PDs are included in the numbers of completions for the REF and for HEFCE quality-related research (QR) funding, provided they are returned to HESA as D00 (doctoral degree) programmes. However, if such perceptions are common in institutions, where the research culture now is generally REF-driven, it is not surprising that institutions do not prioritise PD programmes.

Institutions reported challenges in running programmes for relatively small cohorts, in terms of ensuring that sufficient infrastructure is in place to support and develop existing programmes and to introduce new programmes. Stimulating the creation of new programmes, especially those likely to achieve professional body recognition, may be challenging within some current research and institutional cultures. Compared with the (perceived) financial returns available from undergraduate, taught postgraduate and PhD programmes, staff may struggle to articulate the value of a PD to the institution.

The history and small scale of PD provision may have contributed to a lack of institutional strategy, policy or guidance on PDs in some institutions. There may be a lack of awareness institutionally or in some academic departments of the potential offered by PD programmes. As PD programmes are professionally focused and therefore inter- or multi-disciplinary in academic terms, core institutional systems, which are often seated within distinct academic disciplines and faculties, may not be well set up to manage them.

7.3. Quality

Given the diverse range and lack of standardisation of PD programmes, a major challenge is to ensure that the quality and level of all PDs are of a comparable (level 8) standard. A further challenge is to ensure parity, in terms of 'doctoralness', between PhDs and PDs (and other work-based and practice doctorates), as well as perceptions of that parity.

Our research was not designed to obtain robust measures of the quality of PDs; rather, it focused on obtaining perspectives from a range of informants, including PD programme leaders, supervisors and candidates and certain employers, on existing PD provision. Within these perspectives, there was evidence that some perceptions exist that the PhD is the 'gold standard' doctorate within academia and that the academic value of the PD is not equivalent. This was clear in the perspectives of some staff in HE, where the PhD is the de facto licence to practise as an academic, and also to some extent in the health sector. This perspective was strengthened through occasional reports from supervisors and candidates who observed that "exceptional" PD candidates had switched to a PhD programme instead. Such transfers may be for sound reasons as the research project may have evolved away from practice in an academic direction; however, imprecise and incomplete descriptions may result in this being interpreted as a transfer due to the

quality of the candidate, which is damaging to efforts to promote the parity of the programmes.

There was, however, strong evidence for the potential added value of a PD, compared with a PhD, for both the candidate and the institution. For the candidate, participants reported that there is added value in overcoming the challenges of designing and implementing a research project within a professional setting which inherently may have less support for the researcher than would be the case for a candidate based in a university setting. For the institution, as well as the candidate and their employer, there is arguably greater impact from a PD because the research is required to have genuine impact on the profession/professional knowledge, while other doctorates require a contribution to knowledge. Taken together with the required parity of the level and examination of the research thesis, albeit usually of shorter length for a PD, these are strong contributory arguments for equivalence with a PhD qualification. However, the comparability of the quality of PDs and PhDs would benefit from further exploration through a detailed research project.

7.4. Delivery, support and supervision

There were numerous reports that providing the academic supervision, especially, and other support for the unique features of a PD programme were challenging for some institutions.

Most commonly, this was articulated as a difficulty in providing sufficient supervisors with appropriate expertise (typically from within a small department) for a PD cohort, partly because both PD and PhD programmes draw from the same pool of supervisors. This may contribute to some current PD candidates having a single research supervisor, whereas the QAA Quality Code recommends a supervisory team. The reduced support of employers was contributing to this supervisory challenge, as few PD programmes are now able to attract employment-based supervisors. Identifying suitable and experienced external examiners for this type of doctoral thesis was also reported to be challenging.

There is no doubt that candidates on a part-time PD programme, who may study mostly by distance learning and conduct their research in their employment setting, are different from many 'traditional' learners in HE, and may require quite different supervisory support from full-time PhD candidates. The extent to which supervision can be fully effective at distance is an important issue for PDs, and other part-time doctoral programmes, particularly in the context where the level of workplace supervision and support for candidates is declining.

There are additional challenges in ensuring that PD candidates feel part of the research community, compared with doctoral candidates who are physically on site. It is noteworthy that respondents to the Higher Education Academy's Postgraduate Research Experience Survey (PRES) consistently report the lowest levels of satisfaction relating to integration into the research culture (2013, 66%, overall), and that levels are lower for part-time doctoral candidates (2013, 59% PhD and PD) than full-time.

Some survey respondents reported that their institution found it challenging to provide staff training for supervision or academic progress review for these types of candidates,

and to ensure that they were (or wanted to be) integrated within the institution and/or its research community.

The research reported here also inferred increasing challenges in the delivery aspects of PD programmes where they are evolving from a 'traditional' PD model of a larger geographically local cohort to a smaller and more widely distributed (including international) cohort. The limited size of many cohorts can make it challenging to provide the taught elements of the programme in a viable or cost-effective way. Combining the delivery of some taught aspects of different PD programmes, or PD programmes and cohort-based PhD provision, could provide some economies of scale in terms of face-to-face provision or support. However, catering for a more widely distributed cohort almost certainly requires some or all teaching to be done at distance, or to be available in this manner for those studying remotely.

For the delivery of international PD programmes, there is opportunity to learn from the partnership and blended TNE delivery models that are dominant in the undergraduate and taught postgraduate programmes provided through TNE, in which the UK is an international leader.

7.5. Employer involvement

Relatively little is known about which pedagogical approaches support professional learning and the ways employers and professional bodies would best be involved in shaping the curriculum or pedagogy of PDs in their discipline. The possibility of whether employers should be involved in the assessment of PDs has also been raised as part of quality assurance. Burgess et al. (2010) questioned whether it would be advantageous for employers and universities to work symbiotically with PD candidates in the learning process, and if so, to what extent this should happen.

Our study provides little additional empirical evidence from employers relating to how PD study impacts on the workplace, and how candidates contribute to their organisation and/or profession through a PD, although we have described personal perceptions of PD candidates and alumni of this impact. There remains limited understanding about the ways in which PDs are valued or recognised in the workplace in many sectors, and how these impacts can (or should) be measured. This lack of explicit impact and value may contribute to what seems to be a trend of weakening employer demand for PD provision and engagement in PD programmes found in this study.

7.6. Administrative data and nomenclature

As has been reported, the information that can be gleaned about PD programmes from data collected for the HESA Student Record bears little resemblance to 'known' programmes and enrolments. Overwhelmingly, institutions record both PhD and PD programmes as D00 (Doctorate degree that meets the criteria for a research-based higher degree); this category accounts for 98% of registered doctoral candidates. If institutions or stakeholders wish to identify PD programmes through HESA data, this would require additional, standardised and systematic collection of data by HESA.

The Course aim and Course title fields in the Student Record data collection process would need to be revised, if more clarity is sought in relation to the recording of PD programmes and those registered on them. There could be value in adding an additional field to record the qualification award. As a minimal and potentially easy change, HESA could distinguish between PhD programmes and PD programmes within the course aim. The guidance on these fields would also have to be revised so that staff responsible for HESA data returns have a greater understanding of professional doctorate provision and awards. This guidance would need to include, for example, how to classify EngD programmes.

There is increasing acceptance that the EngD is not a PD programme. This was reflected in the clear majority of institutions that did not include EngD programmes in their reporting to us of their PD programmes. The EngD is a form of doctorate that is studied in an industrial environment but lacks several of the key attributes that define a professional doctorate, and therefore is better considered as part of the range of collaborative or industrial PhD provision, albeit awarded as an EngD. Should a more prescriptive definition of a professional doctorate be developed, this could lead also to the exclusion of many psychology programmes (DClinPsy), and perhaps medical (MD) programmes, but such agreement would require some consultation and a wider review of terminology and definitions across the range of doctoral provision. An additional complexity is the classification of practice-based doctorates. Currently institutions decide whether to register a practice-based doctoral candidate for a PhD or a PD award; their experience would provide valuable insight.

The administrative data issues are complicated further by the continuing issue of the inconsistent use of terminology and nomenclature within an education field that is essentially opportunistic and driven at very local (departmental or even individual academic staff) levels.

8. Summary of findings and recommendations

8.1. Strategies and trends in PD provision

- Over the past five years there has been continued growth in the number of English HE institutions providing PD programmes and modest further growth in the total number of programmes. The main growth in PD provision since around 2000 has been in post-1992 institutions and this seems likely to continue.
- The PD model is proliferating into new subject areas, including applied areas within social sciences, science and technology, and the arts, as well as in professional areas that span traditional academic disciplines such as forensic science, security and logistics.
- Four ‘main’ subject areas (education, health and social care, psychology and business) continue to dominate provision numerically. The EdD, DBA and DClinPsy “brands” in particular appear to be strong. In these areas, additional provision is being launched by institutions new to this market and in the form of more specialised variants of programmes by existing providers. On the other hand, many health-related programmes in particular are currently under threat, with significant numbers of closures.
- Cohorts tend to be small for most programmes (in many cases annual cohorts of six to eight candidates are sought, but fewer are actually enrolled), particularly in new areas, and up to a third of programmes had no enrolments in the last year. Enrolments can be much larger for programmes in education, psychology and business, but are declining in the health area.
- There is a growth in the availability of distance and online study. The proportions of international candidates on some of the programmes we studied in depth were substantial, from which we inferred growth in international participation.
- Employer demand for PDs seems relatively weak, and to be weakening in some areas. This may reflect uncertainty amongst employers as to the value of PD qualifications. It may also contribute to the high proportions of PD candidates that are wholly or partly self-funded, and to the small size of many programme cohorts. The exceptions are currently in clinical psychology, where programmes are funded by the NHS as an entry route to licensed clinical practice, and to a lesser extent within HE itself where some institutions fund their own staff to participate in their programmes.
- Overall, employer engagement and support for candidates seems to be decreasing, and active participation by providing a supervisor or paying programme fees is increasingly rare; candidates report that entitlements to study leave are decreasing. A significant number of PD candidates are motivated by the prospect of career change

rather than progression with their current employer, and some may participate without the knowledge of their employer.

- Despite the apparent weakness in demand from employers, many institutions are anticipating modest growth in their provision of PD programmes and in participation on them, not at all of which looks to be sustainable.
- Increasing competition amongst institutions for the relatively modest demand that exists in new and niche subject areas leads some institutions to turn to international participation to maintain sustainability, although some programmes were originally launched in response to local needs and address UK professional settings.
- In the face of declining enrolments on existing programmes, some institutions are responding by launching related programmes or programmes in new areas in order to try to sustain total PD participation levels.
- Development of PD provision is not strongly strategic by most institutions, and is practically left to the autonomy of individual staff and departments. Much of the development appears opportunistic rather than a strategic response to demand.
- Fees are mostly modest, and similar to those for part-time PhD programmes, but can be very much higher for DBA programmes (on which increasing proportions of candidates self-fund) where there is an internationally competitive market.

8.2. Programme delivery and impact

- Although PD programme structures vary in detail, most follow the two-stage approach of a first taught phase and then formal transition after an assessed research proposal to the research and thesis stage. This report depicts a range of admission requirements with significant flexibility, and a range of requirements for submission and completion of the research thesis. Credit allocation for different elements (within the 540 credit total) varied between different programmes and institutions.
- Taught aspects of PD programmes regularly contain discipline- and research-specific content and professional development training. There is a focus in the latter on enhancing professionalism and transferable skills and especially developing 'reflective practitioners'.
- Part of the training is similar to the content of structured PhD programme training, but there is rarely integration between the two. This could be because of the departmental autonomy of PD provision and/or because many PDs are profession-focused, which does not map well onto academic structures.
- In contrast, many institutions offer their researcher development training to those on all types of doctoral programmes including PD candidates, although the professional experience of PDs means that they are less likely to need some of the transferable skills training offered and some aspects are covered in the taught PD modules.

- Candidates report that the cohort-based nature of PD study is a highlight of their experience and valuable in both enhancing learning and sustaining commitment to their programme during a pressured professional life. On the other hand, most of the programmes are conducted outside the HE research environment and in many cases there is little integration of PD candidates within it.
- Where there is small cohort size, the teaching of taught modules may not be cost-effective or viable. Together with the involvement of more international candidates, this is likely to mean that the taught element of programmes will increasingly be delivered through distance or online methods.
- There are sometimes challenges for institutions in providing sufficient supervision for the specialist research undertaken by PDs; there may be a single supervisor in a department who supervises all PD candidates as well as PhD researchers. The delivery mode for supervision is becoming more challenging as greater numbers of PDs study remotely. Candidates commonly report having only a single research supervisor which is contrary to the trend for PhD supervision and QAA guidelines.
- Perceptions of quality remain an issue, particularly within HE (where the PhD tends to be seen as the 'gold standard' doctoral qualification), although this may vary by subject. There are arguments that PD candidates may undertake greater learning than PhD researchers as they conduct research in an environment with less support, and their research is expected to have impact in a professional setting as well as making a contribution to knowledge.
- Administrative data reported by institutions to HESA, published as the Student Record, does not identify PD candidates. Use of the existing data does not lead to an accurate depiction of PD provision by institutions or PD participation. If more systematic identification of PD programmes and registered candidates is sought, a number of revisions will be needed to data collection and reporting.
- Due to the locally driven nature of PD development, and the lack of a systematic definition of a PD, there is continued proliferation and inconsistency in programme titles and awards, which contributes to data collection difficulties. The Engineering Doctorate (EngD), however, is now commonly understood not to be a PD.

8.3. Recommendations

On the basis of the evidence obtained during this project, the research team makes the following recommendations:

Strategy and sustainability

- UK professional sector bodies and institutions could benefit from developing a more strategic basis for PD provision, while not losing sight of the valuable autonomy granted to academic staff to consider and propose PD programmes in response to perceived demand.

- Development of new programmes which coalesce around established PD “brands” (such as the DBA and EdD) could help to raise the profile of PD programmes, both nationally and internationally, in the eyes of employers and prospective candidates.
- Engagement with employers and servicing new markets are strong institutional motivations for PD provision. Institutions should recognise and more specifically articulate how their PD provision contributes to their strategic priorities such as research impact, employer engagement and societal benefit.
- Given the increased role of self-funding of PD candidates, institutions should consider the extent to which their promotion of PD programmes reflects personal career-related and self-development motivations, in addition to historic employer needs for upskilling.

Quality and reputation

- Institutions and the HE sector generally need to be more consistent in promoting the PD as equivalent to a PhD qualification but different in terms of its target audience and aspects of its delivery, highlighting the importance of the research context and the impact requirements of a PD on professional practice.
- The coalescence of new PD programmes around established major PD “brands” could be used to increase the general profile of the professional doctorate as a programme of study and qualification.
- More consistent credit allocation to elements of PD programmes, particularly the taught elements, would enhance the sector’s understanding of the structure and value of learning within a PD.

Delivery

- Institutions should consider the extent to which PD training could be integrated with, or take advantage of, structured PhD training programmes, such as collaborative doctoral training, to achieve efficiencies.
- Institutions are recommended to ensure that they provide appropriate resources and expertise to ensure good supervision as outlined in the QAA Quality Code (including appointment of more than one supervisor for a PD candidate).
- Institutions might consider the extent to which they could collaborate in the delivery of common aspects of PD programmes within particular disciplines, such as providing more generic training in research methods and skills, in order to increase the sustainability of teaching where institutional cohorts are very small.

Standardisation and administrative data

- Institutions, and the sector generally, should work to rationalise the complexity and heterogeneity of programme titles, awards and nomenclature, as this is contributing to the weak profile of the PD.

- The PD is distinct from the PhD; better understanding of the profile of these qualifications and their respective candidates would result from more defined, standardised and systematic collection and reporting of data through the HESA Student Record.

Further research

- Perceptions of inequivalence persist in the academic environment, which can only be explored through a primary investigation of PD and PhD research outputs so as to provide robust measures of the quality of PD research in comparison with PhD research. This should not rely on individuals' perceptions of quality.
- Although the PD is grounded in professional practice, there is little robust evidence of impact on professional practice and changes in the workplace. More research could usefully be done to explore these impacts.

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Appendix 1. Institutions contributing to the research

The following higher education institutions responded to our survey invitations by contributing information and/or took part in our in-depth research work.

Anglia Ruskin University	Southampton Solent University
Aston University	St George's, University of London
Bath Spa University	University College London/Institute of Education
Birkbeck College London	University of Bath
Brunel University London	University of Birmingham
Coventry University	University of Bradford
Cranfield University	University of Brighton
De Montfort University	University of Chester
Edge Hill University	University of Chichester
Falmouth University	University of Derby
Harper-Adams University	University of East Anglia
Imperial College London	University of East London
Keele University	University of Essex
King's College London	University of Gloucestershire
Kingston University	University of Greenwich
Leeds Beckett University	University of Hertfordshire
Leeds Trinity University	University of Huddersfield
London Metropolitan University	University of Hull
London School of Hygiene & Tropical Medicine	University of Kent
Loughborough University	University of Liverpool
Middlesex University	University of Manchester
Newcastle University	University of Oxford
Newman University	University of Portsmouth
Nottingham Trent University	University of Reading
Open University	University of Sheffield
Oxford Brookes University	University of St Mark and St John
Queen Mary University of London	University of Sunderland
Ravensbourne	University of Sussex
Royal Agricultural University	University of the Arts London
Royal College of Music	University of York
Royal Veterinary College	York St John University
School of Oriental and African Studies	

Appendix 2. List of abbreviations

BIS	Department for Business, Innovation & Skills
CRAC	Careers Research & Advisory Centre
DTC	Doctoral Training Centre
DTP	Doctoral Training Partnership
ESRC	Economic & Social Research Council
EUA	European Universities Association
HE	Higher Education
HEE	Health Education England
HEFCE	Higher Education Funding Council for England
HEI	Higher Education Institution
HESA	Higher Education Statistics Agency
JACS	Joint Academic Classification System
NHS	National Health Service
NIHR	National Institute for Health Research
PD	Professional Doctorate
PRES	Postgraduate Research Experience Survey
QAA	Quality Assurance Agency for Higher Education
QR	Quality-related Research (Funding)
REF	Research Excellence Framework
TNE	Transnational Education
UKCGE	UK Council for Graduate Education