



Characteristics Statement

Doctoral Degree

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About this Statement

This document is a Qualification Characteristics Statement about the characteristics of doctoral degrees. It describes the distinctive features of the doctorate in the UK.

The [UK Quality Code for Higher Education](#) (Quality Code) sets out the Expectations and Core Practices that all providers of UK higher education are required to meet. Providers in Scotland, Wales and Northern Ireland must also meet the Common Practices in the Quality Code. The Quality Assurance Agency for UK Higher Education (QAA) also publish 12 [Advice and Guidance Themes](#) and a number of other resources that support the mandatory part of the Quality Code. Characteristics Statements sit alongside these resources to help providers develop courses and refine curricula but are not part of the regulated requirements for higher education providers in the UK.

Characteristics Statements are closely linked to [The Frameworks for Higher Education Qualifications of UK Degree-Awarding Bodies](#) (the Qualifications Frameworks). They complement and contextualise the information provided within the Qualifications Frameworks, providing more detail about the distinctive features of qualifications at particular levels of the frameworks and/or of qualifications at any level, which are awarded in a particular way.

As this Statement is concerned with doctoral degrees, it relates particularly to the 'Descriptor for a higher education qualification at level 8 on the FHEQ and SCQF level 12 on the FQHEIS: doctoral degree', which is in section 4 of the Qualifications Frameworks.

This version of the Statement forms its third edition. It was first published in 2011 with a second edition in 2015. This edition has been revised following the publication of the revised UK Quality Code for Higher Education in 2018.

How can I use this document?

You may want to read this document if you are:

- involved in the design, delivery (especially supervision) and review of doctoral programmes
- a prospective student thinking about undertaking a doctorate
- an employer, to find out about the knowledge and skills generally expected of doctoral graduates
- a higher education provider outside of the UK, thinking of entering into a joint doctoral arrangement with a UK university.

Those interested in and/or responsible for the design, delivery and review of doctoral programmes should read this document alongside the Quality Code, Advice and Guidance Theme - [Research Degrees](#) that supports providers in meeting the mandatory elements of the Quality Code.

This document does not cover research master's degrees such as the MRes or MPhil, except where they form part of a doctoral programme. For further information see the [Master's Degree Characteristics Statement](#).

Throughout this Statement we refer to doctoral candidates rather than doctoral students. The consensus is that this is the most suitable term to use for this Statement. However, it should be noted that in some higher education providers a distinction is made between 'student' and 'candidate' depending on whether the individual has successfully completed some kind of transfer of status stage, and some providers may use words other than 'student' or

'candidate', for example 'researcher' to describe an individual undertaking a research degree or 'participant' to refer to someone undertaking a professional doctorate. It is recognised that the use of the term 'student' is at odds with many mainland European countries where the doctoral candidate is considered to be an early career member of staff.

Explanations of unfamiliar terms used in this Statement can be found in QAA's [Glossary](#).

Relationship to legislation

Higher education providers are responsible for meeting the requirements of legislation and any other regulatory requirements placed upon them, for example by funding bodies. This Statement does not interpret legislation, nor does it incorporate statutory or regulatory requirements. The responsibility for academic standards remains with the higher education provider who awards the degree.

Higher education providers may need to consider other reference points in addition to this Statement in designing, delivering and reviewing courses. These may include requirements set out by professional, statutory and regulatory bodies (PSRBs) and industry or employer expectations.

Sources of information about other requirements and examples of guidance and good practice are signposted within the Characteristics Statement where appropriate. Individual higher education providers will decide how they use this information.

1 Context, purposes and graduate characteristics

1.1 Context for the doctorate

The doctoral degree is one of the most well-known and well-established postgraduate qualifications. The PhD (or DPhil in some universities) is the main doctoral qualification in the UK. Since the early 1990s, however, the form of the UK doctorate has diversified, leading to differently structured degrees to accommodate the needs of increasingly diverse professions employing doctoral graduates. Doctorates other than the PhD have evolved, leading to the emergence of the titles 'professional' doctorate, and 'practice-based' or 'practice-led' doctorate.

Initially, and beginning with the Doctor of Education (EdD), professional doctorates in different subjects emerged catering for employed professionals returning mid-career to undertake doctoral study. Because of the need for these candidates to re-engage with research methodologies while undertaking employment, they had a significantly different structure from the PhD and included intensive taught modules at the beginning of the programme of study. Many professional and practice-based doctorates have always included structured elements such as lectures and seminars, and have an emphasis on acquiring research and professional skills in addition to conducting original research.

Traditionally, the PhD in the UK has followed an apprentice/master model,¹ but increased attention to research and generic skills training for all doctoral candidates has emerged since 2003 (see Section 3), and as a consequence the PhD has also become more structured, especially in the earlier years of study. Major funders of research training, such as the Research Councils UK and the European Commission, have explicit but flexible requirements for the development opportunities available to the candidates they support financially through studentships.

All UK doctorates, regardless of their form, continue to require the main focus of the candidate's work to demonstrate an original contribution to knowledge in their subject, field or profession, through original research or the original application of existing knowledge or understanding.

Doctorates are delivered through a range of models and modes. Part-time and distance learning are common.

Where doctoral degrees aim to prepare candidates for entry to a particular field of employment, practice or profession, or for progression or transfer within it, a professional, statutory or regulatory body (PSRB) external to the provider may accredit the programme. Graduates of such programmes may be eligible for a particular professional status or may be permitted to enter a further period of practice, study or examination leading to the profession (for example, the EngD may be accredited as meeting the academic requirement for further learning for registration as a Chartered Engineer through the Engineering Council).

PSRBs may be involved in the design and delivery of doctoral degree programmes, especially professional doctorates. They may contribute to the design of any structured elements of the doctorate, including skills training components, and to assessment criteria. Members of PSRBs may also act as external examiners of doctoral candidates. These contributions help to ensure the consistency of outcomes for doctoral graduates in particular subject areas, and in some cases to maintain standards in a relevant profession.

¹ The 'apprenticeship' model dates back to the early nineteenth century, where the PhD candidate followed a form of apprenticeship and was normally awarded the degree in middle age. It is closely associated with F W H Alexander von Humboldt, the German/Prussian physical geographer and anthropologist.

1.2 The doctorate in Europe and internationally

The UK actively contributes to the development of the doctorate worldwide while ensuring that global changes are taken into account in UK policy-making and practice.

It is important to benchmark the UK doctorate in a global environment in order to promote mobility and to strengthen career opportunities for UK doctoral graduates.² Key factors affecting the reputation of UK doctorates include having in place adequate and rigorous quality assurance mechanisms for doctoral programmes, and the ability to demonstrate consistency of standards across varied programmes. This document provides for a comparison between doctorates and demonstrates the equivalence among doctorates of all kinds.

The UK doctorate in all its forms has been confirmed as being in alignment with European-wide guidance, in particular with the [Framework for Qualifications of the European Higher Education Area](#). This independent verification involving colleagues from non-UK European countries, as well as from the UK, recognised UK qualifications as having Europe-wide equivalence, which supports the mobility of graduates within Europe. Such mobility continues to increase through programmes such as the EU Erasmus Mundus and Marie Skłodowska-Curie initiatives, and a growing number of UK universities offer joint or jointly supervised doctoral programmes with non-UK European partner providers.

1.3 Purposes of the doctorate

Doctoral degrees are the most individually distinct of the academic qualifications available because of their roots in research and the pursuit of knowledge, and the requirement for the candidate to produce work demonstrating original thought, based on independent study. Whereas until the late twentieth and early twenty-first centuries the primary purpose of acquiring a doctorate in the UK was for entry to the academic profession, now this is just one of many options for doctoral graduates, who enter diverse jobs across all sectors, bringing their research skills to bear in their own professional context. It is now the case that most academic staff in UK universities have a doctoral degree; this is an expected qualification for most new entrants to academia and contributes to the ongoing high-quality research output from higher education providers.

1.4 Characteristics of doctoral graduates

The Qualifications Frameworks level descriptor for the doctoral degree includes generic information about what all holders of the doctorate will be able to do, and the qualities and skills that they will have (see the [Qualifications Frameworks](#) for details).

Beyond these core attributes, doctoral researchers will have had diverse life experiences and varying opportunities during their doctoral studies, thus equipping each graduate with a unique range of attributes. However, all doctoral graduates should be able to:

- search for, discover, access, retrieve, sift, interpret, analyse, evaluate, manage, conserve and communicate an ever-increasing volume of knowledge from a range of sources
- think critically about problems to produce innovative solutions and create new knowledge; plan, manage and deliver projects, selecting and justifying appropriate

² A HEFCE-commissioned report, *International Comparisons in Postgraduate Education: Quality, Access and Employment Outcomes*, published in September 2014, provides insights between UK, Scotland and six other countries. See: <https://dera.ioe.ac.uk/20949>.

- methodological processes while recognising, evaluating and minimising the risks involved and impact on the environment
- exercise professional standards in research and research integrity, and engage in professional practice, including ethical, legal, and health and safety aspects, bringing enthusiasm, perseverance and integrity to bear on their work activities
 - support, collaborate with and lead colleagues, using a range of teaching, communication and networking skills to influence practice and policy in diverse environments
 - appreciate the need to engage in research with impact and to be able to communicate it to diverse audiences, including the public
 - build relationships with peers, senior colleagues, students and stakeholders with sensitivity to equality, diversity and cultural issues.

Furthermore, doctoral researchers are increasingly being encouraged to develop their foreign language and enterprise skills, and to cultivate business acumen.

All doctoral graduates will have developed during the course of their research additional specialist knowledge within their discipline, while those who have studied a professional doctorate are likely to have been required to have particular professional experience that informs the topic of their research studies. They may well also have been required to engage in further study related to that professional field as part of their doctorate.

Finally, doctoral graduates are able to prepare, plan and manage their own career development while knowing when and where to draw on support.

2 Forms of doctorate

2.1 UK doctoral awards and their main characteristics

The descriptions by category provided below are intended to show both the similarities that exist among doctoral awards and their defining characteristics as individual qualifications, so that it is possible to distinguish between them and the different purposes they fulfil. The descriptions are not comprehensive but are intended to give a flavour of what makes each category of award distinctive.

A summary of common doctoral award titles, and the categories to which they can relate, is included in Appendix 1.

Category 1: Subject specialist doctorates

An example of a subject specialist doctorate is the Doctor of Philosophy (PhD or DPhil, used interchangeably).

Subject specialist doctorates are by far the most common form of doctorate in the UK. They are awarded on the basis of registration on a formal programme of study offered by a higher education provider, and an output that constitutes original research as defined by the academic community into which the candidate wishes to be admitted.

Characteristics often associated with subject specialist doctorates awards are as follows.

- Programmes are based largely on a supervised research project, during which the candidate is registered by a higher education provider. All doctoral candidates are required to make an original contribution to knowledge by conducting an independent research project; the form this takes usually depends on the candidate's academic subject and the degree-awarding body's regulations.
- Candidates follow structured programmes that include both research and generic skills training. This emphasis on personal and professional development emerged particularly during the period of ring-fenced 'Roberts' funding at the beginning of the twenty-first century, managed by Research Councils UK, and continued by initiatives such as the [Researcher Development Framework](#). Acquisition of these skills, together with evaluation of the candidate's subject-specific research skills, is generally monitored or assessed through annual progress reviews. Whether or not the structured elements are formally assessed, examination of the research degree itself focuses on the quality and originality of the candidate's thesis or equivalent, and his/her defence of it at the oral examination ('viva' or 'viva voce').
- Practical work, such as in the creative and performing arts, may well form part of a candidate's output. The form of artefacts and outputs of a practical nature, sometimes involving multimedia, relates to the candidate's subject area rather than to the form of degree programme.
- In the final assessment, candidates are assessed on their thesis, portfolio, artefact or composition (the latter two normally, and the portfolio sometimes, are accompanied by a critical commentary on the work), and by an oral examination. A minimum of two examiners are usually present at the oral examination, usually one internal and a minimum of one external to the higher education provider. Some universities allow the supervisor to attend the oral examination, with the candidate's agreement, and many universities now involve an independent chair or convenor to assure fairness and consistency of practice. Others record all vivas to ensure an accurate record is kept, for the benefits of candidates and staff.

Integrated subject specialist doctorates

Some universities offer 'integrated' programmes in a range of subjects. Such degrees were encouraged by the HEFCE-funded New Route PhD initiative in 2000, and while the use of the term 'New Route PhD' has declined across the UK, the integrated doctorate model has persisted in some subject areas and at some providers.

These programmes are distinguished by the fact that they are more structured in nature, normally with a choice of taught modules and a range of research topic options within the field of study, and include formal lectures, research seminars and workshops at master's or doctoral level during the first year or two years. To accommodate this requirement for taught components, integrated doctorates are often of four years' duration, full-time.

The supervised research project may begin at the point of registration and be undertaken in parallel with the structured taught elements, or may depend on successful completion of taught elements and be undertaken in later years.

Integrated PhDs normally offer exit awards at master's level based on successful completion of taught modules. If the doctorate is in a scientific discipline, they may offer candidates the opportunity to move into a specialist research area in another scientific discipline.

Although some integrated doctoral candidates may have to pass taught elements, the overall assessment for the award is submission of a satisfactory thesis, portfolio or similar output and successfully passing an oral examination with independent examiners, as for all subject specialist study programmes.

Further information about integrated programmes, including programmes where study at master's level is integrated with study at doctoral level, is available in the [Master's Degree Characteristics Statement](#).

Category 2: Doctorates by publication

Examples of doctorates by publication include the [PhD by Publication or the PhD by Published Work\(s\)](#).

Different research degree-awarding bodies have different eligibility requirements and may award this qualification infrequently. They may also differentiate between retrospective publication (published before registration) and concurrent/prospective publications (published within the period of registration).

Characteristics often associated with doctorate by retrospective publication awards are as follows.

- Normally awarded on the basis of a thesis containing a series of peer-reviewed academic papers, books, cited works or other materials that have been placed in the public domain as articles that have been published, accepted for publication, exhibited or performed, accompanied by a substantial commentary linking the published work and outlining its coherence and significance, together with an oral examination at which the candidate defends his/her research.
- The candidate may not be required to register formally for the qualification or to have followed a formal programme of study towards the degree; in other cases, a shorter than normal period of registration is permitted for such candidates, who may already be graduates or academic staff members of the provider, or of a partner provider.

A doctorate by prospective/concurrent publication is now offered by some providers, particularly in science and engineering subjects, the main characteristics of which are as follows.

- A candidate presents a portfolio of interconnected, published research papers contextualised by a coherent narrative, demonstrating overall an original contribution to knowledge. Such publications may include papers, chapters, monographs, books, scholarly editions of a text, technical reports, creative work in relevant areas, or other artefacts.

In the assessment of doctorates by publication, the candidate is examined on these materials and the commentary, sometimes supported by a CV. The final assessment takes the same form as outlined above for other doctorates, namely assessment of the thesis and/or portfolio and an oral examination ('viva' or 'viva voce').

Category 3: Professional and practice-based (or practitioner) doctorates

Examples of professional and practice-based (or practitioner) doctorates include the Professional Doctorate (ProfDoc).

Professional and practice-based doctorates make up a small but significant proportion of the doctoral qualifications currently on offer in the UK.

Professional and practice-based doctorates provide an opportunity for individuals to situate professional knowledge developed over time in a theoretical academic framework. As such, they have different structures from other forms of doctorate. They are often post-experience qualifications and therefore they are frequently the doctoral degree of choice for mid-career professionals. However, in some cases they are required for entry to a profession, namely as a license to practice, or undertaken for reasons other than career development.

Doctorates in which the candidate is involved in professional learning may fall in either the professional or practice-based category, depending on degree content and context, and on the candidate's circumstances. For the purposes of this Statement, information about professional and practice-based doctorates is combined in one section to avoid repetition, and because, at the macro level of doctoral characteristics with which this Statement is concerned, it is difficult to address detailed differences. This approach may not be in line with some of the current thinking about these degrees, but the document makes clear the differences between the two, where they are significant. Individual higher education providers make the final decision about whether a qualification should be described as a professional or practice-based doctorate, using defining criteria that may differ somewhat.

Titles of professional and practice-based doctorates normally reflect the subject or field of study of the candidate and thus there is considerable variation in nomenclature. However, providers normally use the convention of 'Doctor of...', for example Doctor of Education (EdD) or Doctor of Business Administration (DBA). This helps to achieve a degree of consistency, with providers making the final decisions about the titles of their academic awards in consultation with any relevant PSRBs (see Appendix 1 for further information).

UK professional doctorates are designed to meet the needs of the various professions in which they are rooted, including: business, creative arts, education, engineering, law, nursing and psychology. They can advance professional practice or use practice as a legitimate research method. Examples of professional doctorates include distinctive qualifications such as the Engineering Doctorate (EngD). EngD programmes are industry-focused doctoral programmes in which the candidate or research engineer undertakes academic research in an industrial setting, spending the majority of their study period researching a topic set by the industry partner. A similar programme structure can be found

in the Industrial PhD, which shares many of the characteristics with the EngD but the qualification title is 'Industrial PhD' and not 'doctorate'.

The main characteristics of professional and practice-based doctorates are as follows.

- Professional and practice-based doctorates usually contain taught elements with significant lecture and seminar content, but final award of the doctorate is based on a supervised research project, projects or portfolio. In some programmes, the taught elements are assessed and either a pass/fail, or a mark or grade, is given. Such assessments may act as incremental hurdles for the candidate as part of his/her progress towards the independent research project.
- Research projects in professional doctorates are normally located within the candidate's profession or practice. In practice-based or practitioner doctorates the candidate's output involves practice-related materials. For example, in the performing arts, the output involves a written component, which complements the practice-based element (this may be shorter than the traditional PhD thesis, and includes both reflection and context), 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). In clinical practice-based doctorates, such as the DClinPsy or the MD, the research is likely to draw on clinical work involving clinical trials or other work with patients in the practical/clinical setting; the clinically based and academic research are then combined in the candidate's thesis or portfolio.
- Professional doctorates are rooted in an academic discipline as well as in a profession (education, engineering, law and so on). Candidates whose research arises out of practice alone, who are not working in an academically related professional field and who spend most of their time learning in their work environment rather than with the higher education provider would be more likely to complete a practice-based doctorate. In both practice-based and professional doctorate settings, the candidate's research may result directly in organisational or policy-related change.
- As for the subject specialist study doctorate, professional and practice-based doctorates are assessed through submission of a thesis or portfolio, and in the vast majority of cases an individual oral examination ('viva' or 'viva voce'). The provider's definition of whether the award is a professional or practice-based doctorate will have a bearing on the assessment criteria for the degree. In the assessment of professional and/or practice-based doctorates, similar to the PhD, examiners' criteria may include the extent to which the candidate understands current techniques in the subject, for example through demonstrating engagement with and use of research methods and how they inform professional practice.
- In the case of professional doctorates, successful completion of the degree normally leads to professional and/or organisational change that is often direct rather than achieved through the implementation of subsequent research findings.

2.2 Higher doctorates

Higher doctorates (typically the Doctor of Science, DSc or ScD, and the Doctor of Letters, DLitt) are a higher level of award than the doctorates described in this Statement. They are normally awarded by research degree-awarding bodies to staff who have earned a high reputation for research in their field through their professional practice, which may or may not

have been gained in an academic institution. This Statement does not therefore apply to higher doctorates.

Individual higher education providers' regulations specify a limited range of titles for higher doctorates, which can be awarded either for a substantial body of published original research of distinction over a significant period or as an 'honorary' degree, to recognise an individual's contribution to a particular field of knowledge.

3 Key features of the content, structure and delivery of doctoral degrees

3.1 Overview

Irrespective of the type of programme, provider or subject, certain elements are key to the success of doctoral programmes: a high-quality and vibrant research environment; supervision that is appropriate to the candidate and the stage he/she has reached in the programme; access to resources and development opportunities; opportunities for peer interaction and support; demanding but fair academic standards; and the need for the candidate to take responsibility for his/her own learning and research output.

Studying for a doctorate means doing, as well as learning about, research. Doctoral education is, by nature, an individual experience. Each person's route to the degree is different when a range of factors is considered, including:

- the field in which the candidate is studying and the broad subject area, whether single subject or multidisciplinary
- the individual's experience (academic and life) before enrolling on the doctorate
- the qualification chosen
- the university/ies at which the candidate is studying, depending on whether he/she is enrolled on a degree that is jointly offered by more than one provider
- the school or department in which the candidate is based and the form in which skills training is provided
- the candidate's mode of study, for example full-time, part-time, campus-based or distance learning
- the candidate's relationship with the supervisory team, the members of which may be based in different providers, especially if a joint degree, or in collaboration with industry
- whether funding is available for the degree, and any potential requirements that the sponsor may stipulate.

This is not a comprehensive list but it begins to demonstrate the inadvisability of generalising about the educational experience of a doctoral candidate. The content, structure and engagement with a doctoral programme vary significantly according to the candidate's subject area and personal circumstances.

Doing and learning about original research provides a different experience for each individual, but every subject has clear expectations of what this means for the candidate who is working towards a doctoral qualification. In inter and multidisciplinary research contexts, for example in centres for doctoral training, subject-based expectations are combined to deliver a broad-based research training without dilution of subject-specific requirements.

3.2 Entry to, and progression through, doctoral degrees

Individual higher education providers specify entry requirements for doctoral degrees. Increasingly, doctoral candidates possess a master's degree, but in some subjects it is usual to begin a doctoral programme with a bachelor's degree or, in some circumstances, its professional equivalent.

In some cases, candidates are initially registered for a master's degree and transfer to doctoral status at or around the end of the first year on successfully completing a formal progression event.

Other providers, sometimes to meet the needs of some international funding bodies, register candidates immediately for a doctoral programme and confirm (or otherwise) the doctoral candidate status at the first formal, usually annual, progression event.

Some doctoral degrees are structured around a '1+3' model, with candidates completing a taught master's degree before embarking on doctoral studies. This model was previously related to the funding structures used by some research councils, but the majority have now phased it out.

Some candidates are able to enter doctoral programmes on the basis of their prior professional knowledge and experience.

3.3 The research environment

As is widely acknowledged and highlighted in [The Quality Code, Advice and Guidance Theme: Research Degrees](#), the quality of the research environment is critical to the provision of doctoral degree programmes. Access to an active and vibrant research environment, including contact with other researchers, is fundamental to doctoral candidates' success, irrespective of subject, mode of study, or location. [The Quality Code, Advice and Guidance Theme: Research Degrees](#) summarises some of the conditions that are present in high-quality research environments.

3.4 The role of supervision

The supervisor is fundamental to the support and development of the doctoral candidate. The candidate's relationship with their supervisory team is key to successful completion of a research degree programme. In some higher education providers, supervisors may count their supervisory achievements in making a case for promotion.

Effective supervision is often linked to a candidate's ability to complete their studies within an agreed time frame, and to maintaining a high-quality learning experience in doctoral programmes. [The Quality Code, Advice and Guidance Theme: Research Degrees](#) emphasises the fundamental role of supervisors in maintaining quality and consistency across doctoral programmes. It promotes the use of supervisory teams, not only to provide effective support for candidates but to provide a framework in which new supervisors can gain experience alongside those with more experience.

Higher education providers offer a variety of opportunities for professional development for supervisors of doctoral candidates: some have separate induction events for new and experienced supervisors; others favour joint programmes that enable supervisors with different backgrounds and experience to learn from one another. It is also common for supervisor development to occur at school or faculty level, or in Doctoral Training Partnerships and Centres, where there is a shared understanding of supervisory roles in a particular group of subject areas. There is no single model, but as *The Quality Code, Advice*

and Guidance Theme: Research Degrees makes clear, higher education providers support and encourage supervisors to engage in development opportunities.

3.5 Professional development for doctoral candidates

Professional skills development takes different forms in different higher education providers, with some being more formal than others. In some providers such programmes are compulsory (for example, successful completion of some elements being a prerequisite to graduating with a doctorate), but in the majority these are optional but strongly recommended. Some are credit-based, but most are not. The approach in every provider that awards research degrees is informed by The Quality Code, *Advice and Guidance Theme: Research Degrees*; Guiding principle 4 states that 'Research students are afforded opportunities for professional development'.

Providers give their doctoral candidates opportunities to acquire and develop skills and competence in a range of areas, including research skills and techniques, research environment, research management, personal effectiveness, communication skills, networking and teamworking, and career management, as outlined in the [Researcher Development Statement](#), a summary of the [Researcher Development Framework](#), designed to integrate more effectively the requirements of doctoral researchers with those of other researchers at different career stages. The Researcher Development Framework articulates the knowledge, behaviours and attitudes of successful researchers and encourages them to realise their potential'.

Doctoral candidates in the UK are offered a variety of professional development opportunities during their programme. Specifically, they undertake research methods training relevant to their subject area, together with personal skills development that is an important part of preparing for the next stage in their careers.

Subject-specific research methods training often occurs at department or faculty level, whereas professional skills may be developed by being part of a wider network. Depending on the provider's context, professional development may take place in a graduate school, doctoral college, Doctoral Training Partnership, Centre for Doctoral Training, or other organisational structure. Candidates who embark on doctoral programmes when already in employment normally also experience professional development in the work context. Below are summarised some of the most frequently occurring structures designed to support professional development for doctoral candidates.

Graduate schools

These play an important part in the delivery of personal, professional and career development skills training for doctoral candidates³. Some combine taught and research postgraduate students, others are solely for research degree student doctoral candidates. The structure and coherence of the graduate school structure, whether single-subject, at faculty or department level, or at provider level (single provider or as part of a collaboration), also helps to encourage timely progress and completion and to provide postgraduates with a peer group network. Graduate schools may have a geographical

³ The UK Council for Graduate Education has tracked the development of graduate schools, beginning with a survey in 1994, at which time such schools were a 'relatively new phenomenon' (Denicolo et al, 2010) in the UK, undertaking further reviews in 2004 (Woodward et al) and 2010 (Denicolo et al), and a more recent review by Smith McGloin and Wynne, 2015.

location or may be virtual, with postgraduates from multiple providers sometimes being part of a collaborative and possibly interdisciplinary graduate school.

Doctoral colleges

These provide training and support for postgraduate students, usually at a university or cross-faculty level. They may bring together various graduate schools or training centres and often provide a framework for central management of doctoral education.

Doctoral Training Partnerships

These provide training for students across a broad range of subjects determined by a research organisation or consortia of research organisations. Partnerships involve strategic engagement between the research organisation(s) and the Research Council funder(s) in developing the overall programme of training.

Centres for Doctoral Training

Centres provide training for students within focused research areas, often defined strategically by the Research Council funder(s) from the outset. Centres can be focused on academic or industrially relevant research topics, or a mix of both.

Doctoral Training Partnerships and Centres for Doctoral Training give students the opportunity to develop and carry out their doctoral-level research and may offer the added benefit of taught courses to give them a solid background in and knowledge of their chosen subject. They also provide a breadth of professional development training opportunities to enhance students' capabilities and competencies to develop a world-class, highly skilled workforce. In some programmes there is a mandatory requirement for doctoral candidates to participate in flexible professional internships during their doctorate. The objective is to support employability, in particular to deepen the awareness of employers to doctoral candidates and alert them to their skills and attributes. It is also intended to widen candidates' experience beyond academia to alert them to the types of careers in which their research training could have an impact.

4 Doctoral outcomes and assessment

Assessment is at the heart of doctoral degree standards. The candidate's achievements and research-relevant attributes are tested through the final doctoral assessment, which includes a thorough review of the submitted written materials (and artefacts if appropriate), followed by an oral examination ('viva' or 'viva voce'), at which the candidate defends the thesis. The importance of the single major research project as the principal output of a doctoral degree is demonstrated by the rigour and format of the final assessment process.

4.1 Progress and review

Progression towards achieving a doctorate is assessed during the programme, both at formal progression panels, when gaps in knowledge or skills are identified, and informally through discussions with the candidate's supervisor. Although passing module assessments is a formal part of progression through the programme for some candidates, these milestones do not necessarily contribute to the overall assessment of the doctorate or to the award of the qualification; rather, they represent gateways for progression to the next stage of the programme. In all doctoral programmes there is some form of regular progress review, sometimes an annual progress review or similar, at which each candidate demonstrates his or her suitability to move on to the next stage. At some higher education providers, or in some subject areas, the candidate's progress is reviewed after the first six months, but the first progress review often occurs at the end of the first year (for full-time candidates); as a result of this the candidate's status may change to something more formal, which confirms their candidature. Normally, a neutral assessor or panel of assessors is involved in formal progress reviews, as well as the candidate's supervisor (as an observer). Regular reviews are an important part of the learning process in doctoral programmes as they provide both candidate and supervisor with useful feedback on progress.

4.2 Submission

The doctoral candidate submits a substantial body of original work for assessment. This may vary in length according to the candidate's subject. In mathematics, for example, a candidate may have developed an elegant formula to explain a long-standing problem, and the rest of the thesis, which may be relatively short, will explain the thinking behind the problem-solving: how the solution has been arrived at and what it solves or proves. In more discursive subjects, the thesis may be as long as 100,000 words. Such variations do not indicate different levels of achievement because the volume and complexity of study and research required to produce the output are similar. Such variations are well accepted within the relevant subject. In creative arts, as already mentioned, the 'thesis' may take the form of an artefact and a commentary, as is appropriate for the field of study. Most doctoral examiners are looking for work that is original in nature, makes a contribution to knowledge in the subject and is of peer-reviewed publishable quality in that subject: this may refer to elements of the thesis rather than the complete work.

Further information about the assessment of learning outcomes for (or criteria for the award of) all qualifications, and degree-awarding bodies' responsibilities in this area, is available in the Qualifications Frameworks.

4.3 Final assessment

Whether a candidate is being examined on the basis of a 'traditional' thesis, portfolio, artefact(s), clinical practice or other output, the body of work presented demonstrates the research question and provides a critical evaluation of the extent to which it has been addressed. This, combined with the candidate's performance in the oral examination, is the

point at which a decision is made, initially by the examiners, about whether he/she can be awarded a doctorate. Formally, examiners of doctoral candidates usually make recommendations to the research degree-awarding body, with a high-level, official committee having final responsibility for deciding to award the degree in the provider's name. This formality is an important part of assuring the quality of doctoral output and achieving consistency of standards across the provider. The use of one or more external examiners helps to maintain consistency among providers.

The UK doctoral assessment (thesis and oral examination together) provides evidence of the equivalence of standards across different UK doctorates, as all doctoral candidates face similar intellectual challenges at the point of final examination. All doctoral candidates experience a similar format - that is, an assessment of the thesis followed by the closed oral examination, with two or even three examiners (some providers routinely use three examiners, two of whom are external, if a member of staff is being examined). External expertise is a key feature of UK quality assurance processes, and at least one external examiner is required at each oral doctoral examination. External examiners may be international experts and may therefore be based outside the UK; in such cases it is particularly important that the external examiner is fully briefed about the regulations under which the candidate is being examined and the assessment process as a whole, both of which may differ from the assessment practices he/she is familiar with. The Quality Code, *Advice and Guidance Theme: Research Degrees* refers to the use of external examiners at doctoral level. The wider role of external examiners is addressed by the Quality Code, *Advice and Guidance Theme: External Expertise*.

The choice of examiners for any thesis or other doctoral output is made with careful attention to the content of the candidate's research and context in which the research was conducted. Examiners are chosen for their expertise in the field and particular interest in the candidate's research topic, as well as for their experience of the form of doctorate to be awarded. Examiners are usually members of academic staff in universities either in the UK or beyond, but, depending on the type of degree for which the candidate is being examined, one examiner might also be from an industrial or other professional environment (Denicolo et al, 2005). Examiners are normally required to submit separate, independent reports (which are exchanged prior to the oral examination) after evaluating the candidate's thesis or equivalent, and a joint report following the oral examination. Practice varies among providers as to whether or not candidates are shown examiners' independent reports in advance of the oral examination. Some higher education providers take the view that this is helpful as it enables candidates to address the examiners' queries and/or concerns during the oral examination.

It also allows the doctoral candidate to demonstrate how they are able to respond to academic argument as it arises.

The Quality Code, *Advice and Guidance Theme: Research Degrees* includes information about the use of assessment criteria and the procedures for doctoral assessment. Part of the guidance in *Advice and Guidance Theme: Research Degrees* refers to the use of an independent chair in oral examinations to promote consistency and fairness. An increasing number of UK providers use this feature; others record oral examinations, for similar reasons.

In the final part of the assessment, it is the intention that the candidate defends his or her research in the oral examination, and is expected to demonstrate deep knowledge and understanding of the field of study and originality of thought, either in the creation of new knowledge or in the novel application of existing knowledge. The doctoral assessment process is entirely distinct from the assessment of students on bachelor's or taught master's

programmes who are usually examined as a cohort and do not normally experience individual oral examinations.

In the UK, the oral examination is usually a 'closed' examination, where only the candidate, examiners, and any independent observer or chair is present. Many providers permit the supervisor to be present to observe the examination, with the candidate's and examiners' permission, but they do not play an active role in the final decision-making process. This differs from some non-UK European oral examination models involving a public defence, where the candidate may invite family and friends to join the audience in what is considered a celebration as well as a defence of the thesis, and where the outcome of the award is usually already known. Where UK universities are offering joint programmes with other European partners the public defence is sometimes used rather than the 'closed' UK model.

In the UK, examiners do not normally reveal the outcome to the candidate in advance of the oral examination because one of its purposes is to check on both authorship of the thesis and the candidate's engagement with the described research process. It is considered good practice that the examiners have a private meeting before the oral examination to discuss the merits of the candidate's output and to plan the conduct of the oral examination, including the questions they each wish to ask the candidate.

The oral examination is a difficult experience for some and may lead to a recommendation that the candidate should not be awarded a doctoral degree. However, only a minority of candidates fail the doctoral assessment outright. In most providers, examiners have the option of awarding a different qualification such as an MPhil if this is more appropriate to the candidate's achievements, and provided that such a qualification is awarded for positively defined learning outcomes.

Even for successful candidates, it is often the case that doctoral examiners will ask for either 'minor' or 'major' amendments to the thesis, or for 'resubmission'. Providers have different definitions about what each of these three terms mean, particularly in terms of the length of time candidates are given to complete any required changes (but three to six months for minor changes and six to twelve months for major changes are not uncommon). Once any amendments have been made, there is no indication in the award certification of the corrections that have been required by the examiners; the UK doctorate is not graded or classified in any way, it is a pass/fail only.

In a minority of cases, the doctoral examination does not include an oral examination. For example, some professional clinical doctorates use a system of continuous assessment, normally involving production of a portfolio by the candidate and including an evaluation of a clinical research project.

4.4 Credit for doctoral degrees

Credit is not normally assigned to doctoral degrees because of the importance and diversity of the individual research project, which is at the heart of all doctorates. However, where credit is assigned, this is more common among professional doctorates than other forms of doctorate. Credit may be awarded to candidates for successful completion of assessed structured elements as part of research skills and training; in some cases the volume of such credit may contribute to a postgraduate certificate or diploma. Where credit is awarded for the doctorate overall, the normal credit volume in the UK is 540 credits, with a minimum of 360 in England, Wales and Northern Ireland at level 8 or 420 at the Scottish Credit and Qualifications Framework at level 12 in [The Frameworks for Higher Education Qualifications](#).

Related guidance and further references

Those interested in the academic standards of doctoral degrees should read this Statement alongside the Qualifications Frameworks, Credit Frameworks and Supporting Resources. As this Statement is concerned with doctoral degrees, it relates particularly to the 'Descriptor for a higher education qualification at level 8 on the FHEQ and SCQF level 12 on the FQHEIS: doctoral degree'.

Those interested in and/or responsible for the design, delivery and review of doctoral programmes should read this document alongside the Quality Code, *Advice and Guidance Theme: Research Degrees*.

Further guidelines, references and resources

The QAA does not endorse the content of external websites.

Smith McGloin, R and Wynne, C (2015) *Structural Changes in Doctoral Education in the UK: A Review of Graduate Schools and the Development of Doctoral Colleges*. Lichfield: UK Council for Graduate Education

Denicolo, P M, Fuller, M, Berry, D, with Raven, C (2010) *A Review of Graduate Schools in the UK* Lichfield: UK Council for Graduate Education

UK Research and Innovation website www.ukri.org

UKRI, Research Council Common Terminology for Postgraduate Training
www.ukri.org/files/legacy/skills/rcukcommonterminologyforpostgraduatetraining2013-pdf

Vitae, Impact and evaluation www.vitae.ac.uk/impact

UK Council for Graduate Education website www.ukcge.ac.uk

UK Council for Graduate Education, *Professional Doctorates in the UK* (2011), available from: www.ukcge.ac.uk

UK Council for Graduate Education/Bruce Christianson and Martin Elliot with Ben Massey, *The Role of Publications and Other Artefacts in Submissions for the PhD*, available from: www.ukcge.ac.uk/article/the-role-of-publications-and-other-artefacts-in-submissions-for-the-uk-phd-201.aspx

Vitae website www.vitae.ac.uk

Vitae, Researcher Development Framework www.vitae.ac.uk/rdf

Vitae, Researcher Development Statement www.vitae.ac.uk/rds

Vitae, What do researchers do? www.vitae.ac.uk/wdrd

Appendix 1: Summary of doctoral award titles

The table below contains an indicative list of some of the most commonly used award titles with their abbreviations, and brief descriptions of characteristics with which they are often associated.

The table is intended to serve as a quick reference guide to UK doctoral degree qualification titles. However, it is important to note that, although certain titling conventions are specified in the Qualifications Frameworks, there are no nationally agreed definitions of doctoral award titles. The ways in which titles are used will vary depending on the research degree-awarding body and individual providers are best placed to explain their own awards in detail.

For further information about titling conventions, see the [Qualifications Frameworks](#).

Full title	Abbreviation	Description
Doctor of Philosophy	PhD	<p>PhD is the most common award title at doctoral level.</p> <p>It is used for the vast majority of subject specialist doctorates (including integrated doctorates) and doctorates achieved by publication, and for some professional and practice-based doctorates.</p> <p>In the case of subject specialist doctorates, and integrated doctorates, the title is likely to have the title of the thesis attached. A very small number have a post-fix title, for example 'in Musical Composition'.</p> <p>Integrated doctorates will usually feature the term 'integrated' in the title (for example, Integrated PhD or PhD by or with integrated study).</p> <p>The title is usually accompanied by 'by publication' or 'by published work' for doctorates achieved by publication.</p>
Doctor of Philosophy	DPhil	<p>The title DPhil is used for subject specialist doctorates at a small number of providers, as an alternative to the title PhD.</p> <p>In the case of subject specialist doctorates, and integrated doctorates, the title is likely to have the title of the thesis attached. A very small number may have a post-fix title, for example 'in Musical Composition'.</p> <p>Integrated doctorates will usually feature the term 'integrated' in the title.</p> <p>The title can also be used to refer to doctorates by publication.</p>

Full title	Abbreviation	Description
Professional Doctorate	ProfDoc	<p>ProfDoc is a generic title used for professional doctorates.</p> <p>An alternative but less common abbreviation of the title is DProf.</p>
Doctor of [subject name]	<p>D[subject abbreviation]</p> <p>or [Subject abbreviation]D</p>	<p>A range of doctoral award titles are used, which include specific subject names.</p> <p>This approach is especially common for professional and practice-based doctorates.</p> <p>A wide range of examples exist, including (but by no means limited to) the following:</p> <p>Doctor of Applied Educational and Child Psychology (Ap.Ed and ChildPsy D) Doctor of Business Administration (DBA) Doctor of Clinical Psychology (DClinPsy) Doctor of Dental Surgery (DDS) Doctor of Education (EdD) Doctor of Educational Psychology (DEdPsy) Doctor of Engineering or Engineering Doctorate (EngD) Doctor of Forensic Psychology Practice (Foren.Psy.D) Doctor of Health Research (DHRes) Doctor in Health Sciences (HScD) Doctor in Health Sciences (Clinical) (HScD (Clin)) Doctor of Medicine (MD, or in some cases, MD (Res)) Doctor of Ministry (DMin) Doctorate in Music (DMus) Doctor of Practical Theology (DPT) Doctor of Public Health (DrPH) Doctor of Social Science (DScoSci) Doctor of Theology (ThD).</p>

Appendix 2: Members of the advisory groups for the Doctoral Degree Characteristics

The third edition, published in 2020, was revised by QAA to align the content with the revised UK Quality Code for Higher Education, published in 2018. Proposed revisions were checked by a member of the Postgraduate Advisory Group from 2015.

Dr Janet Metcalfe	Chair and Head of Vitae
Dr Andy Smith	Quality and Standards Manager, QAA
Dr Alison Felce	Accreditation and International Services Manager, QAA

QAA is grateful to members of the Postgraduate Advisory Group for revising and updating the second edition in 2015.

Professor Veronica Bamber	Queen Margaret University
Dr Paul Bennett	Higher Education Academy
Dr Iain Cameron	Research Councils UK
Dr Gill Clarke	UK Council for Graduate Education; PhD candidate
Tish Bourke/Emma Creasey/ Dr Brooke Storer-Church (alternates)	Higher Education Funding Council for England
Professor Rosemary Deem	Royal Holloway, University of London
Professor Pam Denicolo	Universities of Surrey and Reading
Shane Dowle	ARC / University of Surrey
Dr Michael Gilmore	Durham University
Louisa Green	London School of Economics
Dr Susan Grey	University of Hertfordshire
Professor Sharon Huttly	Lancaster University
Dr Janet Metcalfe	Vitae
Professor Louise Morley	University of Sussex
Professor Alan Reed	University of Greenwich
Dr Adam Wright	National Union of Students
Dr Anne Rixom	Nottingham Trent University
Dr Julian White	White Rose University Consortium
Dr Cat Ball	Biochemical Society and Society of Biology
Dr Amanda Rouse	University of Cardiff
Dr Julie Reeves (specialist reader)	University of Southampton

Membership of the external development group for *Doctoral Degree Characteristics* 2011 (details as published in the 2011 version).

Gill Clarke	Higher Education Consultant, Visiting Fellow Graduate School of Education, University of Bristol, DPhil candidate, University of Oxford
Professor Pam Denicolo	Director of the Graduate School for the Social Sciences, Director of the Pharmacy Centre for Inter-Professional Postgraduate Education and Training, University of Reading

Professor Chris Park	Higher education consultant, formerly at the University of Lancaster, Special Advisor to the Higher Education Academy
Dr Iain Cameron	Head of Research, Careers and Diversity, Research Councils UK Strategy Unit
Professor Ingrid Lunt	Department of Education, University of Oxford
Dr Debbie McVitty	Research and Policy Officer (Higher Education), National Union of Students
Dr Janet Metcalfe	Chair and Head, Vitae
Professor Clive Neal-Sturgess	Emeritus Professor of Mechanical Engineering, University of Birmingham Visiting Professor of Automotive Safety, Coventry University Visiting Professor of Clinical Biomechanics, Birmingham City University
Professor Vernon Trafford	Professor Emeritus, Anglia Ruskin University
Dr Christian Yeomans	Policy Officer, UK Higher Education International and Europe Unit
Janet Bohrer	Assistant Director of Research, Development and Partnerships, QAA

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