



Quality Code for Doctoral Degree

Document history

Document created by compiling material from various sources including:

EUA: [Principles and Practices for International Doctoral Education](#), 2015

QAA: [The Quality Code: A Brief Guide](#), 2015

QAA: [UK Quality Code, Part B: Assuring and Enhancing Academic Quality, Chapter B11: Research Degrees](#), 2015

ORPHEUS: [Standards for PhD Education in Biomedicine and Health Sciences in Europe](#), 2012

EC DGRI: [EU Report of Mapping Exercise on Doctoral Training in Europe "Towards a common approach"](#), 2011

QAA: [Doctoral Degree Characteristics](#), 2011

EUA: [Salzburg II Recommendations](#), 2010

LERU (League of European Research Universities): [Doctoral degrees beyond 2010](#), 2010

ENQA: [ENQA Workshop Report: Quality Assurance in Postgraduate Education](#), 2010

EUA: [Achievements and Challenges Doctoral Programmes](#), 2007

CG (Coimbra Group): [Doctoral Studies Position Paper](#), 2007

EUA: [Salzburg Principles](#), 2005

EC DGR (Marie Curie Actions): [The Code of Conduct for the Recruitment of Researchers](#), 2005

BP (Bologna Process): [Framework for Qualifications of the EHEA](#), 2004

JQI (Joint Quality Initiative): [Dublin Descriptors](#), 2004

BP (Bologna Process): [Realising the European Higher Education Area](#), 2003

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Preamble

The doctorate has a long history with its roots in medieval Europe. Originally it was a licence to teach in universities which was developed into a research degree in Germany in the 1800s, redefined in the US during the 1860s and first introduced to the UK in 1917 by the University of Oxford. In the UK a number of different types of postgraduate research degree programmes have been developed. All are located at doctoral level but are different awards (for example PhD, DPhil, professional doctorates, PhD by practice, PhD by publication). Such diversity has created some confusion with regard to the purpose of the doctorate. Still, at least concerning the traditional doctorate (e.g., PhD), it seems that 'publishability' remains as an important criterion, supported by different definitions of 'originality'.

The **Berlin Communiqué** in 2003 ([Realising the European Higher Education Area](#)) has included doctoral level as the third cycle and recognised the role of higher education institutions (HEIs) in promoting quality. Since then, the European University Association (EUA) has been paying permanent attention both to doctoral education and to quality culture through a number of projects and surveys. EUA observes the trends in doctoral education, and supports the sharing of good practice among European HEIs.

The **Joint Quality Initiative** (JQI) informal group on its meeting in Dublin on 23 March 2004 proposed a set of shared descriptors for third cycle qualifications, well known as "**Dublin Descriptors**".

The **European University Association** (EUA) has set up a membership activity dedicated to the development, advancement and improvement of doctoral education and research training in Europe. In the framework of the Bologna process, EUA launched in 2005, after extensive consultation through a structured bottom-up process, Conclusions and Recommendations on Doctoral Programmes for the European Knowledge Society, better known as "**Salzburg Principles**". These principles were confirmed and enriched, in 2010, in the "**Salzburg II Recommendations**". The Salzburg Principles and Recommendations are widely endorsed and considered the most comprehensive set of guidelines on doctoral training that exist. They cover the nature of doctoral training, its structure and conditions for success. As a follow-up of Salzburg I and II Principles and Recommendations, in 2015, EUA has issued "**Principles and Practices for International Doctoral Education**", an important publication on four dimensions of good practices in international doctoral education including research capacity and capability, international profile, institutional structures and mobility.

The **Coimbra Group** (CG) in 2007 has issued **Doctoral Studies Position Paper** describing the essential requirements for doctoral training and for the PhD degree defining standards for the independence of research, supervision, duration of study, quality assurance etc.. Special attention was given to templates for transferable skills and co-operation between doctoral schools and programs, including transatlantic cooperation.

League of European Research Universities (LERU) in 2010 has produced a position paper on **Doctoral degrees beyond 2010** describing its vision on doctoral training beyond 2010.

Several thematic networks are/were in the process of defining standards for doctoral training in their field. In 2010, the Organisation of PhD Education in Biomedicine and Health Sciences in the European System (ORPHEUS) published a position paper **Standards for PhD Education in Biomedicine and Health Sciences in Europe** laying down standards and identifying the characteristics of doctoral training for these disciplines.

EU through the **Marie Curie Actions** has been promoting best practice in doctoral training as regards research excellence, attractive environment and employment conditions, interdisciplinary research, industry exposure, international networking and transferable skills training (see e.g., **The Code of Conduct for the Recruitment of Researchers**, 2005).

Glossary

Doctoral degree is a qualification rooted in original research presuming creation of new knowledge or originality in the application of knowledge. It also presumes research that is published, disseminated or made publicly available in the form of assessable research outputs and effectively shared. The doctorate is therefore unique in the array of qualifications offered by higher education providers.

Frascati definition of research (from the relevant Organisation for Economic Cooperation and Development (OECD) manual): Research and experimental development (R&D) is a term covering three activities: basic research, applied research, and experimental development. Basic research is experimental or theoretical work undertaken primarily to acquire new knowledge of the underlying foundation of

phenomena and observable facts, without any particular application or use in view. Applied research is also original investigation undertaken to acquire new knowledge. It is, however, directed primarily towards a specific practical aim or objective. Experimental development is systematic work, drawing on existing knowledge gained from research and/or practical experience that is directed to producing new materials, products or devices, to installing new processes, systems and services, or to improving substantially those already produced or installed.

Threshold standards set by national agencies define the minimum acceptable level of achievement that a doctoral student has to demonstrate to be eligible for the award of (national) doctoral degree.

Academic standards are the standards that individual degree-awarding bodies set and maintain for the award of their doctoral degree and they may exceed national threshold standards. They include the standards of performance that a student needs to demonstrate to achieve doctoral degree, including standards of the quality of doctoral research and standards of the quality of assessment procedure.

Academic quality refers to how well the higher education provider supports students to enable them to achieve their award. It covers learning, teaching and assessment, and all the different resources and a process which a provider puts in place to help students progress and fulfil their potential.

Quality code of a group of doctoral degree providers is a shared starting point for setting and maintaining the academic standards of their doctoral programmes and doctoral awards and assuring the quality of the learning opportunities they provide for students.

The 'Dublin descriptors' for the third cycle (doctoral level)

The Joint Quality Initiative group (JQI) at its meeting in Dublin on 23 March 2004 proposed a set of shared descriptors for third cycle qualifications (so called “Dublin descriptors”). According to the Dublin Descriptors qualifications that signify completion of the third cycle have to be awarded to those students who:

- have demonstrated a systematic understanding of a field of study and mastery of the skills and methods of research associated with that field
- have demonstrated the ability to conceive, design, implement and adapt a substantial process of research with scholarly integrity
- have made a contribution through original research that extends the frontier of knowledge by developing a substantial body of work, some of which merits national or international refereed publication
- are capable of critical analysis, evaluation and synthesis of new and complex ideas
- can communicate with their peers, the larger scholarly community and with society in general about their areas of expertise
- can be expected to be able to promote, within academic and professional contexts technological, social or cultural advancement in a knowledge-based society.

Models for doctoral training and the emergence of doctoral schools

Doctoral training can be organised in various ways depending on institutional profiles, national traditions, specific disciplines and availability of resources. The classical model of the master-apprentice relationship is gradually becoming less important and more and more universities are setting up doctoral schools that deliver structured programmes for

cohorts of candidates. These programmes provide career development through coursework on disciplinary and transferable skills alongside their original research. Doctoral training can be organised at local, regional, national or international level. Many institutions opt for a mixed model, whereby the candidates complete generic courses locally and subject specific courses together with candidates from different institutions (or vice versa).

The majority of institutions have set up doctoral schools or programmes across several or all of their departments/disciplines. Some countries have also set up national thematic doctoral training facilities or research schools (NOR, NL, IE), others have concluded agreements for international training networks (PT, Marie Curie Actions, Erasmus Mundus) or, like Spain, have developed regulatory frameworks to set up doctoral schools.

More and more universities engage in collaborative research with other institutions (joint programmes, which may lead to joint or double degrees), with research institutes or with industry and other relevant employment sectors fostering innovation. Genuine collaboration in doctoral training implies, among other aspects, a shared supervision of the work of the doctoral candidate. The establishment of structured doctoral training (e.g. doctoral schools) is part of universities' move towards a more professional management of research strategies, including research infrastructure, recruitment and selection of candidates, human resources, training, quality assurance and assessment.

Expectations of the various stakeholders

Quality has to live up to the requirements and expectations of the various stakeholders. Concerning doctoral education, the stakeholders are mainly:

- doctoral candidates;
- supervisors;
- staff (scientific, administrative);
- partner institutions and partners from industry;
- lecturers;
- ministries and other financing institutions;
- society at large.

Higher education providers offering research degrees safeguard the academic standards of such programmes by putting in place arrangements that enable them to be delivered according to national and, where relevant, international expectations. Appropriate support and guidance is provided to enable research students, supervisors, examiners, and other staff involved in research degrees to fulfill their responsibilities and to enable research students to complete their degrees successfully.

The research environment

Research degree has to be awarded in a research environment that provides secure academic standards for doing research and learning about research approaches, methods, procedures and protocols. This environment offers students quality of opportunities and the support they need to achieve successful academic, personal and professional outcomes from their research degrees.

An appropriate research environment may include:

- adequate learning and research tools including access to IT equipment, library and electronic publications

- access to the facilities and equipment necessary to enable research students, in all modes of study, to complete their research degrees successfully
- access to academic and other colleagues able to give advice and support
- supervisors with the necessary skills and knowledge to support research students in working towards the successful completion of their research degrees;
- guidance on the ethical pursuit of research and the avoidance of research misconduct, including plagiarism and breaches of intellectual property rights
- the opportunity for research students to raise complaints or appeal

Selection, admission and induction of students

Higher education providers adopt fair procedures and make available accurate information on admissions processes for doctoral degree to applicants and staff involved in a widely accessible format.

Higher education providers put in place suitable criteria for assessing the applicant's qualifications and preparedness, including considering evidence submitted in support of any requests made for the recognition of prior learning, taking into account the applicant's motivation and potential to complete the programme. This also includes an appropriate level of English language competence for entry to the degree.

Each student has to be provided with an early opportunity to meet his/her supervisor to agree on plans for the programme. The plans that the research student and supervisor agree for the programme include the following:

- the initial objectives of the research, taking account of the sponsor's requirements where appropriate
- the development and general educational needs of the research student
- the means by which the research student and supervisor or supervisors will communicate and how they will arrange regular meetings
- the means of monitoring progress in the research and training aspects of the programme.

Research students' responsibilities

Higher education providers inform research students of their responsibilities at the beginning of their programme which may include:

- their own personal and professional development;
- maintaining regular contact with supervisors (joint responsibility with supervisors) preparing adequately for meetings with supervisors;
- setting and keeping to timetables and deadlines, including planning and submitting work as and when required and generally maintaining satisfactory progress with the programme of research;
- maintaining research records in such a way that they can be accessed and understood by anyone with a legitimate need to see them;
- attending any development opportunities (research-related or other) that have been identified when agreeing their development needs with their supervisors;
- responding respectfully to advice and criticisms (indicating acceptance or rationale for rejection) received from supervisors and members of the supervisory committee;
- demonstrating commitment and dedicated effort in gaining the necessary background knowledge and skills to carry out the thesis;

- being familiar with the regulations and policies relating to health and safety, intellectual property, electronic repositories and ethical research;
- providing research results in the form which can be assessable and made publicly available or publishable.

Supervision

Doctoral education is dependent on active researchers to supervise doctoral candidates and bring them into excellent and inclusive research environments. The role of supervisors is critical in maintaining quality standards when supporting research students' research.

To ensure that supervisors possess the expertise required for their role, higher education providers use criteria for eligibility in appointing supervisors, whose performance in the role is kept under review. Normally it is expected that supervisor is active in publishing scientific papers in peer-refereed academic journal(s) with impact factor.

The responsibilities of supervisors may include:

- provision of satisfactory and accurate guidance and advice making sure that obtained research results are publishable in internationally recognised peer reviewed journals;
- maintenance of necessary supervisory expertise and scientific production¹ to be able to perform the advisory role satisfactorily;
- maintaining regular contact with the research student (guided by the higher education provider's stated academic framework and regulations and guidance);
- accessibility of supervisor(s) to doctoral student for advice and encouragement in the course of student's further development and progress in research;
- awareness of the research student on the need to exercise probity and conduct his or her research according to ethical principles, including intellectual property rights, and of the implications of research misconduct;
- help to the research student to interaction with others working in the field of research, for example by encouraging the research student to attend relevant conferences and supporting him/her in seeking funding for such events;
- encouragement and guidance of the research student in the course of submission of conference papers and articles to refereed journals, where appropriate;

Assessment

Assessment processes for research qualifications reflect the distinctive nature of research degrees and include an oral examination. Research degree-awarding bodies safeguard the academic integrity and consistency of such programmes and qualifications internally and externally.

Although there is some variation between higher education providers, common features of research degree assessment procedures are as follows:

- the candidate is examined on the basis of an appropriate body of work (doctoral thesis) and an oral examination (viva voce or viva).

¹ for example at least three papers published in the last five years or alternatively six papers published in the last ten years in journals with impact factor (e.g., journals included in SCI list or so)

- three to five appropriately qualified and competent examiners are appointed to the assessment committee, providing that at least one is external to the higher education provider and the research degree-awarding body;
- members of the assessment committee submit separate, independent written reports before the oral examination and a joint report after it;
- it is strongly recommended that at least one member of the assessment committee is from outside the higher education provider and the research degree-awarding body;
- when main result of the doctoral theses is shared by several co-authors, the contribution of doctoral candidate has to be separated from the contributions of all other co-authors, except from those of the supervisor(s);
- the supervisors are substantial co-authors of the doctoral thesis and therefore, to avoid conflict of interest, they must not be involved in the assessment of the doctoral thesis;
- as a prerequisite for oral examination, doctoral candidate has to publish main results of the thesis in peer-refereed academic journal(s) with impact factor²;
- when publishing scientific papers is not applicable, e.g. in arts, before the oral examination doctoral candidate has to receive positive reviews of the main result of the thesis from at least two external reviewers (not participating in the assessment committee!)³.

Student complaints and appeals

It is in the interests of research students and higher education providers to resolve possible problems at an early stage. To facilitate this, higher education providers ensure that research students and staff understand the difference between informal ways of resolving problems and routes they can use to make formal complaints or appeals.

Research degree-awarding bodies develop their own definitions of complaints and appeals, and assure themselves that staff and students are aware of the different procedures. To assist in resolving problems at an early stage, providers appoint an impartial person with suitable experience to whom research students can take their complaints, and whose role is widely publicised.

Appendix: Two case studies of the Quality Assurance at Doctoral Level in Europe

The case of Germany

Manuel Pietzonka, Central Evaluation and Accreditation Agency Hanover (ZEVA)

Quality assurance (QA) of the third cycle in Germany

In Germany, a doctoral degree can be obtained from universities, either from doctoral schools specialised in one discipline or from the department offering a PhD programme

² for example in journals included in SCI list

³ external reviewers will be engaged from a list of external experts whose performance in the role will be kept under review.

or organising the individual coaching of the doctoral candidate. Doctoral schools are sometimes funded by the German Research Foundation (DFG) or supported jointly by a university and the Max Planck Society. Advanced lectures on specialised topics. Course examinations are part of these programmes, for which the university takes responsibility. Because of Germany's federal structure, higher education is governed by state laws. For example, according to the Lower Saxony's state law on higher education, Bachelor, Master and PhD programmes have to be externally accredited.

Central Evaluation and Accreditation Agency Hanover (ZEvA) - experience in accrediting PhD programmes

The Zev Agency was founded in 1995 as an evaluation agency. It is the oldest institute for quality assurance in higher education in Germany. In 1998, ZEvA established a department of accreditation. ZEvA has been actively evaluating, consulting and accrediting programmes and institutions. The agency is an independent private foundation accredited by the German Accreditation Council and listed in the European Quality Assurance Register for Higher Education (EQAR). ZEvA has accredited PhD programmes of nearly every university in the State of Lower Saxony. Institutions of Higher Education outside Lower Saxony are not required by law to accredit their PhD programmes. However, some of them use the advantages of accreditation and apply to ZEvA for their PhD programmes accreditation.

ZEvA Standards for the accreditation of PhD programmes

In 2003 ZEvA published standards for the accreditation of PhD programmes. These standards were revised in 2008. They are aligned with the National Qualification Framework (NQF), the European Qualification Framework and the Dublin Descriptors (for BA, Ma & PhD programmes, 2004). ZEvA's standards are defined for the following elements:

- Profile
- Entrance requirements and Admission
- Structure & Curriculum
- Internationalisation & Cooperation
- Quality Assurance
- Financing & Organisation

PhD programmes differ according to academic goals and traditions of the discipline. However, some general standards should be met by every PhD programme. In what follows only a selection of key aspects of ZEvA's standards are presented:

Profile:

The programme should be characterised by an academic profile on the basis of profound research activities of the teaching staff.

PhD candidates should meet the following requirements:

- Gain methodical expertise and knowledge for highly qualified occupations (acquire competence to participate actively in research activities and to initiate research projects);
- Develop the conception for a thesis that suffices international standards (acquire excellent problem solving capacity);

- Gain the ability to successfully engage in post-doctoral research work;
- Participate in didactical and methodical training for the promotion of teaching skills;
- Enhance the ability to work cooperatively.
- Eligibility requirements

The programme should have a transparent selection procedure. It should be open to the best graduates or graduates with excellent academic records in higher education institutions only. The individual selection should be based on academic and personal qualifications. Part of the eligibility requirements should be the submission of a thesis project and a work plan.

Structure and curriculum

Students need a clearly defined programme structure which includes opportunities to work cooperatively. The individual research work has to be complemented by comprehensive courses (e.g. on advanced research methods, research ethics, soft-skills).

There should be an appropriate duration limit for doctoral studies.

Students participating in a doctoral programme should acquire key skills, especially in the following fields:

- Presentation and moderation, conduct of negotiation, project management;
- Ability to teach at university level;
- Foreign languages.

Internationalisation and Cooperation

International exchange programmes and cooperation with other universities should be included in the programme. The persons who wish to know the details of the programme should be able to get the information easily. ZEvA recommends universities to carry out research projects abroad and to encourage the exchange of students and staff.

Quality Assurance

Quality assurance procedures for the programme comprise:

- an external peer review to guarantee the appraisal of consistent standards;
- the individual selection of participants on the basis of academic and personal qualifications; and
- course evaluations by the students.

Financing and Organisation

The programme (including staff) must be funded appropriately. A minimum of 70 percent of the course offers should be covered by internal staff. Internal and external staff should work under a legally binding work contract.

The case of England, UK

Janet Bohrer, Development Officer, Quality Assurance Agency for Higher Education, UK

Introduction

The Quality Assurance Agency for Higher Education in the UK (QAA) is responsible for safeguarding the public interest in sound academic standards of higher education qualifications (taught and research). It also informs and encourages continuous improvement in the management of the quality of higher education. The doctorate has

been documented as the 'pinnacle' of academic degrees a university can award. It is also a Bologna Declaration third cycle award. In the UK the quality assurance responsibilities fall within the remit of the QAA. Postgraduate research education is organised and delivered differently around the world. Some common understanding about what the doctoral award signifies can be derived from the shared 'Dublin' descriptors for the Bachelor's, Master's and Doctoral awards (2004). However, there are areas where there are differences between national experiences, for example the relationship between national research and postgraduate research education. It is by sharing our own experiences we can help to develop our understanding more broadly. This article therefore contributes to the debate about quality assurance at doctoral level by outlining the case of the UK and in particular of England.

The UK Doctorate

The QAA's Framework for Higher Education qualifications for England, Wales and Northern Ireland (FHEQ) states that doctoral degrees are awarded to students who have demonstrated:

- The creation and interpretation of new knowledge, through original research or other advanced scholarship, of a quality to satisfy peer review, extend the forefront of the discipline, and merit publication
- A systematic acquisition and understanding of a substantial body of knowledge which is at the forefront of an academic discipline or area of professional practice
- The general ability to conceptualise and implement a project for the generation of new knowledge, applications or understanding at the forefront of the discipline, and to adjust the project design in the light of unforeseen problems
- A detailed understanding of applicable techniques for research and advanced academic enquiry.

The most common research degree in the UK is the Doctor of Philosophy (PhD or DPhil) but UK higher education providers also offer a wide range of other doctorates for example professional doctorates, PhD by practice, Integrated or 'New Route' doctorates and PhD by publication.

In 2005/06 there were 94,180 doctoral researchers in the UK inclusive of those studying both full and part time, registered in over 120 institutions. The UK doctoral cohort is complex and diverse. Entry and completion data is published by the Higher Education Funding Council for England (HEFCE).

The Code of practice: postgraduate research programmes

The Code of practice was developed by QAA and a working group comprising of higher education experts including postgraduate research students. It was published after rigorous consultation within the higher education sector enshrining the spirit of the HEFCE 'threshold standards'.

The precepts are grouped under the following headings:

- Institutional arrangements
- The research environment
- Selection, admission and induction of students
- Supervision
- Progress and review arrangements
- Development of research and other skills
- Feedback mechanisms

- Assessment
- Student representations
- Complaints
- Appeals

Quality Assurance

The UK's approach to quality assurance and enhancement has been developed within an environment of devolved country responsibilities. Consequently while many of the external reference points available to higher education providers, such as the Code of practice, are UK wide, the process of evaluation varies.

For postgraduate research programmes using England as an example, institutional audit teams like in the special review are required to assess and report the extent to which "institutional arrangements for securing the academic standards of awards and the quality of provision in postgraduate research degree programmes are in alignment with the guidance given in the Code of practice" (postgraduate research programmes).

Audit teams have access to the individual institutional (unpublished) reports from the special review and institutions are invited to update the team on developments since that report was produced. Audit teams make a formal comment on postgraduate research programmes which contributes to the overall confidence judgement made about an institution. All institutional audit reports are published.

There was some concern voiced that the emphasis on research degree provision might be achieved at the expense of attention to taught programmes. This was never the intention and has not been demonstrated to be the case. However, as auditor comment about postgraduate research provision is now embedded within the overall institutional audit it has become easier for the principles of effective pedagogy and assessment from across the higher education system to be applied to the distinctive area research degree study.

In the UK all higher education providers are autonomous. Universities are not owned by the state but most higher education providers receive government funding distributed by the higher education funding councils and the Department for Employment and Learning in Northern Ireland. Institutions are therefore accountable to the State through mechanisms which include those outlined above but individual institutions are responsible for the standards of the awards they make and the quality of the education they provide. Higher education providers therefore all have their own internal quality assurance procedures.

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