ESRC Postgraduate Training and Development Guidelines
Second Edition 2015

Section A: Introduction and purpose of the Guidelines

Purpose

The ESRC Postgraduate Training and Development Guidelines set out our expectations for the content and delivery of postgraduate training funded by ESRC and underpin the ESRC Postgraduate Training Strategy 2017-23.

The guidelines indicate the minimum requirements that Research Organisations (ROs) will need to meet to provide high-quality core training across all areas. There is an expectation that the training and development provided to ESRC-funded social science postgraduate researchers will go above and beyond these minimum requirements and draw upon the strengths within or across individual ROs.

The requirements specified in these guidelines will apply:

- from September 2015 for proposals for ESRC Doctoral Training Partnerships (DTPs) and Centres for Doctoral Training (CDT)
- from October 2017 for all new ESRC-funded studentships.

Context

The ESRC's overall mission is to:
- promote and support world-class research and related postgraduate training in the social sciences
- advance knowledge and provide trained social scientists who meet the needs of users and beneficiaries, thereby contributing to the economic competitiveness of the UK, the effectiveness of public services and policy and the quality of life; and
- provide advice on, disseminate knowledge about and promote public understanding of, the social sciences.

In our Strategic Plan 2015 we reiterate our core commitment to enhance social science capability and build capacity in priority areas, identifying this as one our four key areas of activity:

- Fostering research and innovation
- Creating and maximising data infrastructure and research
- Building capability
- Facilitating partnerships and realising impact

Excellent social science needs people with the skills, curiosity and creativity to be truly innovative. It also requires people with the ability to work in interdisciplinary teams and to communicate research ideas and findings clearly. We are committed to working with research organisations to develop the next generation of social scientists, to ensure they are equipped to undertake high-quality analytical work, handle different forms of data and collaborate with others.

A major achievement in the five years from 2010-15 has been to create a national network of 21 Doctoral Training Centres. Our Postgraduate Training Strategy 2017-2023 sets out

how we will build on this success whilst at the same time increasing our ability to respond to emerging research needs and be more inclusive of smaller pockets of social science excellence in specific strategic areas.

ESRC Postgraduate Training Strategy 2017-23

The majority of our investment in postgraduate training will be delivered through a network of Doctoral Training Partnerships (DTPs) and Centres for Doctoral Training (CDTs). In addition, we will enhance the capacity-building dimension of our centres and large grants in strategically important areas.

Both DTPs and CDTs will sit within high-quality social science research environments that offer a critical mass of research and postgraduate activity to ensure that the very best training provision is made available from across the social science community.

Studying as part of a cohort is hugely beneficial to students in terms of the support they receive from one another and also the training opportunities available to them. We are placing an increased emphasis on ROs having a clear strategy for building cohorts of doctoral students across all partners and pathways.

In addition, we want to ensure that the most talented students are attracted to postgraduate training and a career in research, whatever their background and regardless of where they undertook their first degree. We aim to accredit those ROs that can demonstrate an open and transparent recruitment process that enables the potential of the candidate to be assessed whether they are applying on a full- or part-time basis, whether they have prior research training, and regardless of their demographic background.

Developing researchers who have the capability to undertake research that tackles the key challenges facing society today is an essential consideration for the ESRC. ROs will be expected to demonstrate that their training will enable students to work in collaboration with a range of non-academic partners and to work effectively in an interdisciplinary environment. Also to develop the cultural and methodological skills required for working with international partners.

About these Guidelines

These guidelines set out how the ESRC Postgraduate Training Strategy 2017-2023 should be applied within ROs. They give the details behind:

- the training content expected to be in place, or in development, indicating the core requirements across training in research methods, transferable skills and subject-specific* areas of training;
- the expectations for Doctoral Training Partnerships (DTPs) and Centres for Doctoral Training (CDTs).

*Subject-specific is used to denote training in the subject matter, whether disciplinary training or training in interdisciplinary areas of enquiry.

Section B: Training provision

Introduction: Broad-based social science research training

The ESRC places strong emphasis on the provision of broad-based social science research training that equips researchers with the skills to manage a successful research career and/or to contribute to the wider society in other ways. It is expected that this will include formal training as well as opportunities for research students to integrate with established researchers and to benefit from a rich and diverse research training environment.

This section provides details of the requirements for the content of postgraduate training for social scientists. This training includes a compulsory foundation in a broad range of social science research methods, basic research skills, and broader capabilities such as communication and leadership skills.

Training outcomes

The overall goal of the training will be the development of fully trained and competent social science researchers, who have:

- a competent understanding of the debates within disciplines that inform their field of study
- an overview of the philosophy of research methods and how this informs research design, the methods chosen, the means of analysis and the representation and presentation of information and data
- an ability to understand and use a range of research techniques appropriate to their subject area, and who are conversant and sympathetic to approaches used by other fields
- an ability to integrate what they have learned in addressing research in ways that are characteristic of an experienced, highly effective researcher
- a competent understanding of the use and impact of their research within and beyond academia and the mechanisms through which this might be achieved
- an ability to engage with relevant users at all points in the research process, from developing and shaping research questions, to continued engagement and relationship building throughout the research process (thereby aligning non-academic needs to shape processes where appropriate) and to share findings in ways specific to the interests of the audience
- an ability to communicate their research findings effectively to a wide range of audiences
- an ability to engage with a range of partners whether internationally, through collaborative working and/or across interdisciplinary fields of research
- an appreciation of the skills required to become a research leader in their field and an understanding of the opportunities available to them to support the development of their career.

A rigorous annual training needs analysis (TNA) must be undertaken for all ESRC-funded students. This will ensure that students receive a progressive training programme that addresses both the depth and the breadth of the training they require. See section D for further information.

Flexibility

The ESRC wants to facilitate flexibility in the delivery and timing of the training provided to ESRC funded postgraduate students.

Flexibility in training structures

Training can be delivered through a flexible portfolio of three-, four- and even five-year postgraduate training platforms, which include:

- *+3 programme* – funding for a three-year PhD programme (this assumes that the majority of the core training requirements set down by the ESRC have already been met, the focus during the PhD being largely on more advanced training)
- *1+3 programme* – support for an integrated research training masters, which will deliver the majority of core training requirements
- *2+2 programme* – funding to cover an extended masters, followed by a shorter PhD programme
- *+4 programme* – **up to** four years funding for a PhD (this assumes that either core training requirements along with advanced training will be satisfied during the course of the programme)
- *2+3 programme* – funding for extended masters training that may be required for specialist training, such as the learning of foreign languages. This also caters for interdisciplinary programmes that may demand more substantive and methodological training before the transition to a PhD programme.

A flexible portfolio of postgraduate training platforms allows programmes to match the particular needs of individual disciplines and interdisciplinary subject areas, as well as the needs of individual researchers. The ESRC does not see this list of flexible structures as exhaustive. It is expected that ROs will have the mechanisms in place to promote appropriate integration of the training for both full-time and part-time students and ensure they are integrated within the cohort regardless of the training structure.

Flexibility in the delivery of training

The ability to provide training throughout the PhD programme creates greater flexibility in the timing of training delivery. Rather than being frontloaded into a master's year, it can be spread out across the PhD programme, matching delivery more closely to actual needs.

The RO will be expected to have robust progression and upgrade procedures in place to assess formally individual students across all structures.

Flexible modes of delivery

We encourage innovative and imaginative approaches to the delivery of training programmes within or between ROs. This can include a wide variety of approaches

including the creation of on-line training materials, experience- or community-based learning opportunities.

Collaborative training

Undertaking a studentship in partnership with a non-academic organisation gives students access to training, facilities and expertise not available in an academic setting alone. It can also give students an opportunity to develop a range of valuable skills, and significantly enhance their future employment prospects.

For the users themselves, the benefits of collaborating include accessing experts and cutting-edge research, accessing innovative ideas that could improve policy or practice, and enhancing organisational creativity, performance and productivity.

DTPs have been set a target of 30 per cent of each cohort to be engaged in some form of non-academic collaboration. Whilst we are not prescriptive about the form that collaborations must take, ROs must support students in developing skills to work in collaboration with a range of partners and this must also be embedded within the RO's own resources for supporting knowledge exchange activities.

The general principles of what activities count towards the collaborative target are:
- To contribute to the 30 per cent target collaborations do not need to be co-funded, though there are clear benefits to securing co-funding;
- Collaborations must be with a non-academic organisation in the public, business or civil-society sector;
- Collaborations must include substantive knowledge exchange and not just one way engagement (eg, data collection).

CDTs must be developed in collaboration with non-academic partner(s) and for at least 20 per cent of the funding to be supported by non-academic partner(s) or other sources (except other Research Council sources) or the research organisation.

Content of training

These Guidelines focus on those elements of core training we expect for all students in receipt of ESRC funding, covering research skills, research methods and broader capabilities. They do not prescribe core subject-specific training requirements; it is the responsibility of each RO to determine the substantive content of subject specific training, associated with their own training pathways and drawing upon areas of particular strength.

The ESRC wants to encourage ROs and individual researchers to view training and skill development as integral components of all research, however junior or senior the researcher, and would hope that these Guidelines encourage innovation and experiment in the provision of the very best training across, and between, ROs.

The level and intensity of this core training may differ from subject to subject. In the area of research methods, for example, compulsory training in Economics may include a range of high-level quantitative tools and techniques which would not be considered to be core training within other areas of social science. Similarly, in Social Anthropology it may include

sophisticated qualitative techniques that would not be a uniformly required element for all social scientists. This compulsory core is not restricted to research methods and applies also to subject knowledge or theoretical training which is deemed to be a core element of individual training pathways.

Expectations for core research methods training

The following section indicates the minimum level of skills and competencies in the application of research methods that students are expected to develop.

The purpose of this is to raise the general level of skills and knowledge amongst social scientists by ensuring that they develop, and can apply, basic and advanced quantitative and qualitative research skills that are responsive to the needs of social science subject areas and disciplines, the broader science base and a wide range of users.

The manner in which the learning outcomes are achieved is expected to vary for different subject areas and disciplines and for students with varying levels of prior knowledge and experience. It is not necessary to give equal time to training in each topic area. The specific research methods and levels of proficiency within each subject area or discipline are in addition to the requirements set out below.

Basic training in the first year of a 1+3, or 2+2 degree would normally be within the context of a Masters in Social Research. Students allocated +3 (or equivalent) awards are expected to have met the majority of these minimum requirements through prior postgraduate research training. When undertaking assurance checks we will be monitoring students against these requirements and ROs will be expected to provide the evidence on which they have robustly assessed the students' prior training.

Most of these outcomes would normally be achieved in the course of the first year of postgraduate research training, and all should definitely be attained by the end of the doctorate. The ESRC wants ROs to view these requirements as the minimum and encourages them to develop innovative and flexible training programmes which address the changing needs of researchers across the span of their doctoral careers. ROs are expected to ensure that there is progression and advancement in skills training and to provide opportunities for the acquisition of skills which may become most relevant in their subsequent postdoctoral careers.

Learning outcomes

As a result of their training in research methods students are expected to have developed the following skills and be able to apply them in practical research contexts:

- comprehension of principles of research design and strategy, including an understanding of how to formulate research questions which are amenable to empirical investigation and an appreciation of alternative approaches to research;
- competence in understanding and applying a broad range of research methods, (including quantitative, qualitative and mixed methods), and the use of appropriate software for their application;

- the development of advanced research skills and techniques relevant to their field of study;
- capabilities for managing research, including data management, and conducting and disseminating research in a way that is consistent with both professional practice and the normal principles of research ethics;
- understanding of the significance of alternative epistemological positions that provide the context for theory construction, research design, and the selection of appropriate analytical techniques;
- understanding of the basics of probability, and a critical understanding of the scientific method and of the nature of reflexivity; and
- understanding of the application of good ethical practice across the entire research process.

Principles of research design

Students must be able to understand the connection between research questions or hypotheses and the tools required to address them, and gain practical experience of applying some of those tools. More generally, students must be provided with training that enables them to demonstrate their capability to:

- define and formulate research problems and questions, and, where appropriate, formulate hypotheses that can be tested;
- understand the rationale for using particular qualitative or quantitative research methods;
- understand the relationship between empirical research and theory generation and testing (theory-evidence links);
- understand different forms of sampling, sampling error, and case selection, and potential implications for the interpretation of research findings;
- understand and apply the concepts of generalisability, validity, reliability, and replicability (recognising that there are different perspectives on how these may be defined); and
- understand the integrated or complementary nature of the relationship between methods in mixed methods research designs.

It is expected that pathways will offer opportunities for students to develop more sophisticated understandings of these issues in the course of their subject-specific training in the first or subsequent years of postgraduate research training.

Data collection, analysis and management

The ESRC expects all students to develop a good level of literacy in both quantitative and qualitative methods through exposure to a wide range of methods of data collection, research design and data analysis. Students must have a good understanding of both the practice and philosophies of social science research which enables them to understand the advantages and disadvantages of core research methods and apply appropriate methods to different types of research question. Students should be made aware of the basic approaches to both qualitative and quantitative data analysis, including different ontological and epistemological perspectives.

All students are expected to be provided with training that ensures they have a thorough knowledge of the practical and ethical issues involved in social science research. This should include different types of research design, such as:

- Different purposes and approaches to interviewing, including with individuals and groups (structured, semi-structured, and in-depth) and modes of questionnaire administration (online, face to face, telephone, postal);
- Diverse approaches to data collection, such as longitudinal, cross-sectional and experimental research designs, including field experiments;
- Ethnographic and case study research designs including participatory research, methods of observation, and analysis of observational data;
- Combining different methods of data collection and analysis (i.e. mixed-methods research).

Training also should expose students to different methods of and approaches to data collection and analysis, such as:

- Sampling or selecting cases or subjects;
- Accessing secondary data (qualitative and quantitative) from existing sources (and an awareness of the rich holdings of the UK Data Service);
- Distinctions in various forms of data, such as documentary, narrative, administrative, digital or 'big' data;
- Dealing with non-response and missing data;
- Merging and linking data sets, including administrative data;
- Random and systematic measurement error, how it should be mitigated through instrument design and corrected for during analysis;
- Inductive and deductive methods;
- Thematic (framework) analysis and methods for ethnographic analysis;
- Hypothesis testing, exploratory and inferential methods, and measuring causality; and
- Recording, visualising and representing different modes of data (such as textual, aural and visual).

Students must be able to gain direct practical experience of collecting and analysing data using a range of tools, including appropriate computer packages. By the end of their doctoral training students should be able to demonstrate, through practical application, appropriate analysis of structured (or quantitative), textual and visual data.

All students are expected to have some core training in quantitative methods and to be trained to a basic level of statistical literacy. This would allow them to understand and interpret numerical data that are presented in tabular or graphical form and understand the basics of statistical inference and modelling in addition to a thorough understanding of simple quantitative analysis (eg use of Univariate descriptive statistics, measures of central tendency – ie means and medians, and dispersion, and measures of bivariate association). Competency should be developed in the methods appropriate to the student's specific discipline; however, core training for those students specialising in quantitative methods would be expected to include much of the following:

- Population inference from cross-sectional and longitudinal sample surveys and inference from research using experimental designs;
- Inferential statistical tests for parametric and non-parametric data;
- Linear and non-linear forms of multivariate regression;
- Data reduction and grouping methods, such as factor and cluster analysis; and
- An introduction to methods of longitudinal analysis, such as event history analysis.

All students are also expected to have some core training in qualitative methods and to be trained to a level that would allow them to understand and interpret a range of phenomenological or textual data. Again, competency should be developed in the methods appropriate to the student's specific discipline; however, core training for students specialising in qualitative methods would be expected to include much of the following:

- Analytic methods for offline and online textual, aural and visual data;
- Participatory, multi modal and arts-based research approaches;
- Historical, comparative and archival methods;
- Discourse analysis and narrative analysis; and
- Competency in analysis of qualitative data, using a computer assisted data analysis package, such as NVivo, QSR NUD*IST, or Atlas-ti.

Regardless of the specific methods used in their research, all students will be expected to demonstrate competency in the skills required to manage data effectively, whether they are using existing data or creating new data. This includes developing an appreciation of intellectual, practical and ethical issues:

- Checking, cleaning, and preparing materials for analysis;
- Manipulating and coding data;
- Secure data storage;
- Preparing materials/data for deposit in a repository for wider use (including the relevant documentation); and
- Safe methods of disposing of data.

As with research design, and depending on the subject area or discipline, students are expected to acquire, in their first or subsequent years of postgraduate study, more advanced levels of competence in quantitative and/or qualitative methods of data collection and analysis which are appropriate for their substantive and disciplinary focus.

Pathways will need to demonstrate not only what basic training is available, but how individual students will progress to develop advanced skills in the later years of their doctorate. The aim should be to promote the development of skills throughout the research period and not just 'tool-up' students to complete a specific research project relating to a dissertation for a postgraduate degree.

Students must be also made aware of the ESRC Research Data Policy (http://www.esrc.ac.uk/about-esrc/information/data-policy.aspx)

Core subject-specific training

Core subject-specific training refers to compulsory training within a subject area. It remains a fundamental element of training for social science researchers.

It will be the responsibility of ROs to determine the substantive content of such training across clearly defined discipline and interdisciplinary training pathways. This will ensure that research students are appropriately prepared to develop in areas relevant to the demands of the discipline or substantive research field.

As part of core subject-specific training students should be made aware of the breadth of the field of enquiry, the range of constituent specialisms and the resulting spread of research paradigms and theoretical positions. Students should also emerge from their doctoral programme with an appreciation of the way social science research is embedded in policy and practice.

The aim is to ensure that students:

- are well informed of the latest thinking and ideas in their field of enquiry – including subject knowledge, theoretical positions and research methods – from a range of perspectives
- appreciate the basis on which the knowledge in the field has been derived
- are able to use this knowledge to make a reasoned defence of the theoretical traditions and research techniques that they ultimately may have chosen (or rejected) during their research.

On completion of the training, the student should be equipped with knowledge required to undertake further independent research at the frontier of the field or take up employment in policy or practice communities that exploit such knowledge.

ROs are encouraged to ensure that there is effective horizontal integration of training across the RO or ROs, through identifying and building upon synergies where they exist, as well as effective vertical integration of training to provide a deeper knowledge deemed to be core for an individual's particular research subject or field of enquiry.

Expectations for general research and transferable skills training

It is recognised across the full academic research base that research students need to combine the specific skills required to complete their doctoral work with a portfolio of more broadly based skills that will equip them with the flexibility to manage their future career, whether that is within academia or in the broader economy.

The Research Councils, along with other key stakeholders, supported the development of a Researcher Development Statement (RDS) (https://www.vitae.ac.uk/researchers-professional-development/about-the-vitae-researcher-development-framework/the-vitae-researcher-development-statement) setting out the key skills and attributes that postgraduate students and early career researchers should be expected to attain during the period of postgraduate study and in the process of becoming an independent researcher and/or research leader working within or beyond the academic sector.

We place considerable emphasis on the deeper embedding of general research and transferable skills into substantive research training and it is the responsibility of ROs and their partners to indicate clearly how they will integrate the acquisition of these skills into their doctoral programmes and/or through enhanced opportunities for experiential learning.

Furthermore the ESRC encourages the development of new and innovative activity in transferable skills training, and is looking to both DTPs and CDTs to develop mechanisms through which 'people exchange' initiatives may provide learning experiences to help doctoral students further enhance their transferable skills. This may include internship opportunities in public-, business- and civil society-sector organisations.

General research skills

Bibliographic and computing skills

ROs will be expected to include training for all students in certain basic skills. With particular reference to the student's own research, this training is likely to cover:
- the identification and use of library resources
- other bibliographic sources and methods
- techniques for preparing literature reviews, and keeping up to date with the literature
- preparing a personal research bibliography
- research management, including database and data management
- web-based research techniques (such as using web-based social science indices); and
- procedures for the evaluation of research, including peer reviewing and the preparation of book reviews.

Teaching and other work experience

Students undertaking teaching or other employment-related responsibilities should receive appropriate training and support. The training provided should be indicated in proposals for accreditation. It is beneficial to research students if they can obtain teaching experience, for example with seminar groups, or any other work that helps develop personal and professional skills. This might include internship opportunities with public-, business- or civil society-sector organisations. The ESRC recommends that opportunities to gain any work experience should be accredited where appropriate.

Language skills

The ESRC believes that the opportunity for training in a second language is desirable for research students, particularly where there is a perceived need within the student's research project. Proposals for accreditation should set out provision for language training for those students that require it.

Ethical and legal issues

The ESRC expects issues relating to ethics, confidentiality and legality to be explicitly and systematically addressed as an integral and embedded part of core training provision. Furthermore the ESRC expects that supervisors will have access to specialist training in this area to be able to help students acquire the specific knowledge, skills and understanding of research ethical procedures that they need in the context of their particular research context and design. And also to respect, consider and attend to the rights of other researchers and research participants.

The ESRC Framework for Research Ethics (FRE) (http://www.esrc.ac.uk/about-esrc/information/framework-for-research-ethics/) sets out the ESRC's approach, aims and methods in ethical evaluation and conduct of research, including doctorate-level research. It is expected that research students will be made aware of this document as well as local ethics review requirements as part of their core training.

Research Council-funded students are also covered by the RCUK Policy and Guidelines on Governance of Good Research Conduct and all ESRC funded students should be made aware of this guidance. Please see the RCUK website for further information: www.rcuk.ac.uk/Publications/researchers/grc/

Skills for engaging with users and for maximising the impact of research

Maximising the impact of social science research is a core principle for ESRC and it is increasingly important for students. This should include understanding the processes or mechanisms through which impact can be achieved as well as the challenges they might face in doing to.

ESRC investments in postgraduate training are responsible for helping students develop relevant skills to engage with interested parties across a range of sectors. In addition, students must be made aware of the importance of working towards achieving academic, societal and economic impact as a core component of their ESRC studentship. This includes the exchange of knowledge with academics both within and beyond their own disciplines as well as involving non-academic beneficiaries of their research in the process of devising and shaping their research, and understanding its outputs.

We will only fund DTPs and CDTs that can demonstrate and commit to providing both excellent research training and excellent support for the wider skills required for impact both within and beyond academic careers in social science. DTPs and CDTs will be expected to have a strong culture of, and a supporting environment for conducting, impactful research.

The benefits of working with users, and engaging in the co-production of knowledge, can inform and improve the quality of research, enhance the understanding of research users and their needs and apply evidence-based knowledge to important business or policy issues. The skills required to effectively develop these relationships can not only add value to a PhD but also expand the range of career opportunities available to students.

The ESRC expects institutions to provide training that will enable postgraduate students to:
- identify potential benefits and beneficiaries of their research from the outset and throughout the lifecycle of their project/research

- recognise both the academic and 'real world' context of their work and the opportunities and challenges of engaging with both
- develop the skills required for effective co-production of knowledge
- develop entrepreneurship and enterprise skills
- develop skills that foster the better use of research and research outputs in policy and practice settings
- develop skills that help and enable outreach and public dialogue, throughout the research process and beyond

Training may take the shape of standard seminars and training modules and may involve internships, placements and experiences outside their regular research environment.

Exploitation of research and Intellectual Property Rights (IPR)

Students should be made aware, as an integral part of their research training, of the possibilities and problems of academic or commercial exploitation of their own research activities, as well as the research activities of others. This should include an understanding of their RO's intellectual property policy as well as relevant training.

RCUK open access policy

Free and open access to the outputs of publicly-funded research offers significant social and economic benefits, and aids the development of new research. Students should be made aware of the RCUK policy on open access and its requirements. Further information can be found on the RCUK website: www.rcuk.ac.uk/research/openaccess/policy/

Transferable skills

Communication and networking skills

Students should be strongly encouraged to develop skills to communicate their research, promote themselves and build up a network around their research. The development of communication and networking skills should form an embedded part of their overall programme of research training including presenting their work to both academic colleagues and non-academic users, and building networks with others including researchers. Students should have opportunities to attend and contribute to seminars, workshops and conferences. They should also be encouraged to seek opportunities to circulate papers to interested individuals and groups.

An early introduction should be given to the essential skills of writing, presentation and dissemination, although the development of these skills will continue throughout the student's studies. Opportunities should also be given for students to develop these skills for a non-academic audience such as writing for or speaking to the media, general public and government bodies.

Furthermore, the development of skills around co-production of research, public engagement and enterprise skills (see General Research Skills) can play an important role in

helping postgraduate students raise their profile and exchange knowledge to wider audiences.

Leadership, research management and relationship management

The ESRC expects that students will be encouraged to develop capabilities that will enable them to become effective research leaders in their future. These capabilities should go beyond the skills required to manage their research project effectively such as project and time management, relationship-building, and skills to manage the resources available. Research leadership skills may include strategic thinking in the context of international research, understanding funding processes and opportunities, understanding opportunities and challenges of collaboration, and understanding the life cycle of the research process: From the initial idea for a research question, through the development of a research proposal that may attract funding, to the archiving of data and, where appropriate, the completion of end-of-award reports to research sponsors.

These may be developed through formal learning, through the experience of conducting and completing their own research, and through opportunities for experience learning such as internships and participating in research networks.

Personal and career development

The ESRC, along with the other Research Councils, is committed to the implementation of the Concordat to Support the Career Development of Researchers (https://www.vitae.ac.uk/policy/concordat-to-support-the-career-development-of-researchers/strategy-researcher-development-and-careers). It is expected that ESRC provision for postgraduate training and development within DTPs and CDTs will reflect the principles of the Concordat for postgraduate researchers from the outset of their research training. The ESRC expects research students to be encouraged to proactively engage in their own personal development and career direction, in accordance with the Concordat, and this will include the development of skills for careers both within and outside of academia.

ROs are encouraged to formalise personal development activity. As a minimum, students should develop a training plan in discussion with their supervisor(s) to develop an awareness of their career aspirations, research strengths and skills, and to plan specific ways to address areas for development over the course of the PhD programme.

Supervisors should encourage and support their students to reflect upon and actively manage their own career direction and to engage with a range of activities that will help develop useful skills and knowledge for different possible career paths. ROs are required to make students aware of relevant support for career development learning, especially that provided by the RO's central support services, and their entitlements in respect of such provision.

National training provision

In addition to generic research and transferable skills training available within the RO or through a consortium arrangement, the ESRC expects that research students will be made aware of external sources of support for career development and transferable skills, especially that provided by the Research Councils and other national organisations that champion the personal, professional and career development of doctoral researchers. ROs should commit to developing the potential of postgraduate researchers and to encourage students to take advantage of specific support provided by organisations like Vitae (http://www.vitae.ac.uk/).

Section C: Delivery

ESRC funding for the delivery of postgraduate training will be primarily delivered through Doctoral Training Partnerships (DTPs) and Centres for Doctoral Training (CDTs).

Research Organisation or partnership level proposals

Accreditation will remain at an RO level to help facilitate the development of more coherent RO- and consortium-wide core training programmes in, for example, research methods and transferable skills. We hope that RO-level accreditation will ensure that postgraduate training provision is embedded within the RO's own strategy for social science and that it is integrated with the RO's wider resources such as knowledge exchange and career support. Also, that it will further serve to support the identification and development of positive synergies between disciplines and further trends towards purposeful interdisciplinarity research and training.

Metrics threshold

To be eligible to support ESRC-funded students, pathways must meet minimum threshold levels associated with the outcome of the Research Excellence Framework 2014 (REF). This is to ensure that we support consistently high-quality pathways across all delivery mechanisms. Units of Assessment which do not meet the threshold set out below will not be eligible for inclusion in pathways.

All pathways must be made up of Units of Assessment (UoA) which have:
- a greater than or equal to 50 per cent REF output (3*+4*)
- a greater than or equal to 50 per cent REF environment (3*+4*)
- a greater than or equal to 50 per cent REF impact (3*+4*)
- a research volume equivalent to a minimum of five FTE staff with output at 3* or 4* (calculated by number of FTE staff submitted to REF2014 'multiplied by' percentage of REF output at 3* or 4*).

The metric threshold applies at an individual training pathway level and while pathways can draw on multiple UoAs all must meet the threshold.

The threshold requirement for each pathway to have a minimum of 5 FTE staff with an output at 3*+4* applies at the institution level and not consortia level. Therefore each RO within a consortium needs to have 5 FTE staff with an output at 3*/4* to be part of that pathway.

Widening participation

The ESRC wants to ensure that the most talented students are attracted to postgraduate training and a career in research, whatever their background and regardless of where they undertook their first degree. ROs must think imaginatively and address in their applications how they can contribute to this agenda as a DTP or CDT and promote postgraduate research to a diverse base of talented graduate students across the UK.

DTPs and CDTs must ensure the following as a minimum requirement:

- The selection process is open and transparent and enables the potential of the candidate to be assessed whether they are applying on a full- or part-time basis, whether they have prior research training, and regardless of their demographic;
- All studentships must be available on a full- or part-time basis and the availability of part-time awards must be clearly set out when advertising funding opportunities;
- The option of studying on a 1+3 or 4 year type award must be clearly advertised and accommodated within the assessment process;
- There must be a clear distinction between the training thresholds for +3 and 1+3 studentships;
- The opportunities for ESRC-funded studentships must be actively publicised both within and beyond the host ROs.

Doctoral Training Partnerships

DTPs will offer a high-quality and coherent postgraduate training infrastructure across a broad range of social science disciplines. Partnerships involve strategic engagement between the Research Organisation(s) and the ESRC in developing the overall programme of training. They will be able to offer high-quality core and advanced training that moves beyond the thresholds set out in these and earlier guidelines.

DTP proposals must be multi-disciplinary. Proposals for single discipline or narrowly focused DTPs are not eligible to apply.

Academic partnerships for the organisation and management of DTPs

We consider that effective academic collaboration between ROs will help to optimise the exploitation of the very best postgraduate training across the social science base. Such collaboration may include the shared design and delivery of core and/or advanced training, joint supervision of studentships or improved access to broader facilities and resources which support a PhD programme.

There is no limit on the number of ROs that may form part of a collaborative DTP however; the collaborative proposal must demonstrate that the partnership is meaningful and coherent, and that it is demonstrably enhancing the quality of training provision within the partnering ROs as well as developing a strong cohort identity across all students funded via the DTP.

Expectation of allocation mechanism

Each DTP will receive an allocation of studentships. The allocation will include a broad strategic steer to direct some studentships onto particularly high-quality single-discipline or interdisciplinary training pathways to help address the Council's key capacity-building priorities. DTPs will also be able to allocate some studentships to support their own strategic needs.

However, beyond the allocation of strategic steers, the majority of studentships must be allocated through an open competition across the DTP as a whole. This includes single RO

DTPs and consortia. Applicants will be required to articulate their proposed allocation mechanism in their proposals.

DTP governance

A well-defined strategy for social science research and a plan for how the DTP contributes to, or leads, that agenda is a necessary pre-condition for ROs to maximise the potential of a DTP. Also critical is a governance structure led by the DTC Director which enables effective engagement and communication with all levels of the DTC, including pathway convenors, supervisors and students to ensure best practice is effectively shared.

Target for, and definition of, non-academic collaboration

We are keen to positively encourage collaborations between business-, public- and civil society-sector organisations to help maximise the wider impact of our training investments and to increase opportunities for doctoral students to work with non-academic stakeholders. Students gain a wide range of benefits from engaging in collaborative activity, such as the opportunity to network within the policy arena and to develop their transferable skills and knowledge. Therefore we expect at least 30 per cent of our DTP students to engage in some form of collaboration with a non-academic partner.

We are not prescriptive about the type of collaboration, but rather ask DTPs to demonstrate that studentships are developed in collaboration with other organisations and involve substantive user engagement and knowledge-exchange activity as part of the award. This could be achieved through collaborative studentships and other opportunities such as internships and placements. While these collaborations may involve co-funding it is not a requirement.

Leverage of funding

Whilst no formal target will be placed on it, DTPs are encouraged to use the funding provided by ESRC to leverage funding from other sources and thereby maximise the number of studentships available.

Adding new pathways and/or partners

DTPs will be able to apply for accreditation for both new pathways and new partners annually. All potential pathways must satisfy the metrics threshold stated above.

Changes to provision

The ESRC encourages ROs to improve and develop their provision continually. In particular, it would not wish ROs to hold back from implementing plans for innovative developments in their provision once accreditation has been obtained. ROs can update and evolve their training provision, whilst maintaining standards in their core and/or advanced training,

without immediate reference back to ESRC. Any changes to provision will be monitored via the annual report process.

Centres for Doctoral Training

CDTs are distinct from DTPs in that they will develop and deliver specialist training in focused thematic interdisciplinary research areas. CDTs must be developed in collaboration with non-academic partner(s) with at least 20 per cent of the funding supported by non-academic partner(s) or other sources (except other Research Council sources) or the RO.

Academic partnerships for the organisation and management of CDTs

As with DTPs, there is no limit on the number of ROs that may form part of a collaborative CDT proposal but the bid must demonstrate that the partnership is meaningful and coherent, and that it is demonstrably enhancing the quality of training provision within the partnering ROs as well as developing a strong cohort identity across all students funded via the CDT.

Governance

The CDTs will be held in research organisations with renowned research strength in the thematic area and the principal investigator on the proposal will be the CDT Director and a leader in the area.

Engagement of non-academic partners

CDT proposals must be developed with user engagement and so benefits to users must be clearly articulated, as well as what any collaborating partners hope to achieve from the centres and how their involvement will enhance the quality of training.

Leverage of funding

Each CDT should support a minimum of 10 studentships per year, up to eight of which will funded by ESRC. The remainder can be co-funded either by non-academic partners or the RO(s) themselves.

Associated studentships

The ESRC will continue to provide associated studentships, formerly known as grant-linked or project-linked studentships, to support strategic research initiatives. Eligibility to include associated studentships on grant proposals will be confirmed within the call guidance.

To be eligible for associated studentships, the student and their supervisor must be based in a pathway within an accredited DTP or CDT. The supervisor must also be either the Principal Investigator, or a Co-Investigator, on the grant proposal.

In addition, where there is a strategic need for capacity building, there will be an opportunity to apply for additional studentships as part of an application to the ESRC Centres and Large Grants Competition. Proposals for studentships via this route do not have to be based at ROs with an accredited DTP or CDT. Applicants will therefore need to articulate a detailed supporting case for their postgraduate provision, including cohort development, as part of their bid for a Centre or Large Grant.

Flexibility in the use of studentship funding

Once accredited, DTPs and CDTs will have flexibility in the use of studentship funding, subject to ESRC terms and conditions. This includes flexibility to:

- Fund any type of studentship using the flexible part of their allocation. This means that as well as 'standard' studentships, collaborative awards with non-academic partners or studentships co-funded with other Research Councils or agencies can be supported. Applicants will need to set out their expertise and approach to collaborative awards in their application. DTPs that meet these requirements will also be able support short term internships in public-, business- and civil society-sector organisations as part of a PhD programme.

- Part-fund studentships. This means that ROs can add their own funding to support studentships or secure co-funding from public-, business- and civil society-sector sources as long as at least 50 per cent of the funding for the studentship comes from the ESRC allocation. This will provide leverage, helping to increase the volume of studentships. Where studentships are co-funded, the funding must be based on the whole notional cost of a studentship, ie, including an element for overseas fieldwork, Research Training Support Grant (RTSG), etc.

- Increase stipend levels above the minimum level to help recruit/retain students in national shortage areas. This may, for example, be particularly important in the recruitment of mature students, common in practice-based disciplines where there is a recognised need to strengthen research capacity.

Building upon established standards

In submitting their proposals, research organisations are reminded that doctoral training needs to meet national requirements for the quality and standards of academic awards, particularly section B11 of the Quality Assurance Agency (QAA) UK Quality Code for Higher Education (http://www.qaa.ac.uk/assuring-standards-and-quality/the-quality-code), and the relevant QAA subject benchmark statements.

In particular, ROs are expected to demonstrate how they address the following areas.

Facilities

At the outset of their research training, students should be given a clear indication of the basic facilities available for their use. The ESRC suggests that these should include:

- Access to appropriate space to work, including a designated desk should it be required
- Access to telephone and photocopying facilities
- Computing, email and internet access
- Laboratory and technical support, where appropriate
- Appropriate library facilities and information services
- Opportunities to meet and network with other students and researchers; and
- Support for training opportunities and for attendance at conferences and other relevant events.

The ESRC expects ROs to ensure that students with disabilities have all possible access to courses and programmes of study. This is linked with the duties of the Equality Act 2010, which include the duty to anticipate the learning needs of disabled students within all aspects of curricular provision, including lectures, field trips, exams and placements. Such anticipation is likely to include flexible arrangements for access to resources, physical access to facilities, and the provision of, and access to, specialist resources such as computer software and library materials. It also means that the ESRC recognises that ROs will need to approach all requirements in these guidelines with sufficient flexibility to meet the needs and capacities of disabled students.

High-quality supervision

The ESRC expects ROs to ensure that all postgraduate students have access to the highest quality supervision and that procedures are in place to ensure consistent effective provision. The ESRC would normally expect supervisory arrangements to be put in place at the outset of a studentship regardless of the training structure or pathway followed.

The ESRC requires dual supervision, or supervisory panels, to guide the research. The expectations of both supervisors and students should be clearly set out in RO or departmental codes of practice, and in internal quality control mechanisms. These should be reviewed regularly and students and supervisors should be made aware of the procedures in place.

ROs must have a clear policy on how new or inexperienced supervisors will be trained and developed, which might include being partnered with, and mentored by, an experienced co-supervisor. ESRC will expect ROs to describe what formal systems are in place for monitoring the performance of supervisors, for identifying their training and professional development needs, and for ensuring that these are met. This should also include procedures for addressing non-satisfactory performance.

Ensuring that supervisors are engaged with the DTP or CDT is essential to ensure that the student gets the most out of their ESRC studentship and the range of opportunities available to them. As such, ROs must have a clear strategy for communicating with supervisors and ensuring that they are fully engaged with the aims and objectives of the DTP or CDT.

Section D: Monitoring

Monitoring by the ESRC

The ESRC has supplemented its research training accreditation by implementing a programme of activities to monitor the implementation and development of the new framework. This will include a start-up meeting, annual reports, a survey of ESRC-funded students and a visit to each accredited DTP or CDT.

The ESRC reserves the right to reduce or remove funding where DTPs and/or CDTs continue to fall below the targets set for them by ESRC and/or are not delivering the training they committed to in their proposal.

Monitoring of training needs

As a minimum requirement, a rigorous training needs analysis (TNA) must be undertaken for all ESRC-funded students that will ensure they develop a progressive training agenda over the lifetime of their programme that addresses both the depth and the breadth of the training received. ROs are responsible for ensuring that there is an auditable, robust and consistent approach to training needs analysis for all students, across all pathways and in all partner ROs, and must review training needs analysis on an annual basis to monitor what training needs have been identified and how they are being addressed.

The ESRC will undertake a sample check of these annually.

Widening participation

We will monitor the demographic information of those students allocated ESRC funding and, where areas of concern are identified, ROs will be invited to provide evidence of how their allocation relates to their overall applicant pool and what steps they have taken to pro-actively recruit a broad range of students.

Excluding collaborative and associated studentships, DTPs must have at least 50 per cent of their awards allocated to four-year programmes (this includes 1+3, 2+2, +4 awards). This will be reviewed annually and where large imbalances continue the DTP's allocation will be reviewed. If the DTP needs more than 50 per cent of awards allocated to four-year studentships they can enable this through the flexibility in the grant and it is acknowledged that this may result in a reduction in the overall number of studentships awarded.

Studentship steers

Where a DTP has received additional steered studentships we will undertake annual assurance checks on a selection, to ensure there is a robust assessment procedure in place to allocate these awards.

In addition, we will undertake annual assurance checks on a selection of +3 studentships to ensure that these have been allocated to students who have had prior research training that meets the majority of the core requirements set out in this document.

Collaboration with non-academic partners

DTPs will be set a target to have at least 30 per cent of each cohort engaged in some form of non-academic collaboration. Progress against the target will be monitored annually. If, by the third year, students in the first two cohorts are not meeting the target or not at least on track to meet the target, studentships may be reduced and reallocated elsewhere.

Submission rates

The ESRC will continue to monitor annually the aggregate submission rate for all ESRC research students in each RO. This is done on the basis of statistics provided by ROs on the submission dates for ESRC research students. ROs that fall below a 70 per cent submission rate will be vulnerable to having a sanction placed which will make them ineligible to host or receive ESRC research studentships for the following one or two years. Full-time students must submit within one year of their funding end date and part-time students must submit within two years.