2 Developments in postgraduate study

Chapter overview

This chapter provides an overview of the historical developments and potential directions for UK postgraduate study. Specifically, this chapter includes:

- An exploration of historical developments in postgraduate education – which subject or discipline areas are growing in student numbers and which are declining?
- Typical postgraduate provision available in the UK – what are the entry requirements of each, how long are the programmes of study, and indicative examples.
- Reasons for undertaking advanced level, postgraduate study – the benefits for you as a student.
- The growth and impact of postgraduate training guidelines.
- Guidance relating to skills and knowledge at Masters level.
- Guidance relating to skills and knowledge at Doctoral level.

Why undertake postgraduate study?

The reasons for embarking on postgraduate study, whether this be a taught or research Masters, MBA, PhD, or any permutation, are myriad. In the PhD Students' Section of the National Postgraduate Committee (NPC) website, poll results to the question 'why are you looking to do a PhD?' indicate that 48% of respondents answered that it was to improve career prospects (Figure 2.1). Additionally, when exploring the uses and potential benefits of a PhD, a supplementary survey question revealed that the mind was a primary beneficiary of undertaking this type of advanced study. Perhaps surprisingly, perceived financial gain (the wallet) was not an initial reason for study (Figure 2.2).

Many of the postgraduates consulted as part of the development of this text indicated that postgraduate learners are engaged in advanced and focused study around a

My tutor/lecturer suggested it *4%*

I like being a student *11%*

I'm fascinated by the subject *37%*

To improve my career prospects *48%*

FIGURE 2.1   **Why are you looking to do a PhD?**

Source: FindAPhD.com (http://www.findaphd.com/students/pollresults.asp)
(Accessed: 11/10/04)

…the mind *50%*

…the soul *20%*

…the wallet *13%*

…nothing *17%*

FIGURE 2.2   **A PhD is good for …**

Source: FindAPhD.com (http://www.findaphd.com/students/pollresults.asp)
(Accessed: 11/10/04)

specific discipline area. For some, postgraduate study is the natural continuation of study initiated through a first degree, although, as Anna details below, the work requirement can be considerably more than that required of an undergraduate degree.

Some people on my course thought that being a postgraduate was simply a continuation of being an undergraduate, it was just another year. It really is not like that! The amount of work you are required to do, and the limited timeframe you have in which to do it really does apply the pressure. Because most Masters programmes are one year full-time or two years part-time, you really do have to hit the ground running. There's not much time to relax and go drinking (as many undergraduates do)!

Anna, ESRC 1 + 3 student, University of Manchester.

In their review of a selection of postgraduate education literature, Harland and Plangger (2004) concluded that a central reason for guiding students into studying at advanced (PhD) level was their previous positive experiences gained whilst studying at undergraduate level. For many, advanced level study facilitated a more detailed exploration within their chosen field. Creating or generating 'new' knowledge was an important consideration (Harland and Plangger, 2004: 76). Other typical reasons for undertaking postgraduate study include:

- to increase job prospects;

- to develop skills;

- to work at the cutting edge;

- to train as an academic; and

- to become an expert in a given field.

Postgraduate study has traditionally been a reserved activity of the few – expense, time commitment and specialisation required for the subject have successfully kept student numbers low. More recently, however, students, industry, government and other policymakers and beneficiaries have recognised the importance of advanced study. In recent years postgraduate numbers have increased dramatically, as evidenced by review work conducted by the Higher Education Policy Institute. In his examination of UK postgraduate education, Sastry (2004) found that a range of types of postgraduate provision had enjoyed remarkable growth in the seven-year period 1996 to 2003. Through analysing statistical data collected annually by the Higher Education Statistical Agency, Sastry observed that taught Masters programmes had grown by 42% over the period, taught doctorates by 101%, and teacher training programmes (Postgraduate Certificates in Education) by 26% (Sastry, 2004: 6).

Chapter 3 (Where to study and applying for funding) fully utilises a range of data collected by the Higher Education Statistics Agency (HESA) to help inform potential students of the most appropriate time to apply. These data also enable interesting analyses of the changes in postgraduate student numbers across a range of subject or discipline areas. Within many areas, part-time postgraduate student numbers have either fallen (between the period 1995–2002) or they have remained fairly low in terms of any growth achieved. However, the substantive increase in postgraduate numbers has occurred within full-time programmes of study. The largest growth by subject area for full-time programmes of study has been in Biological Sciences (see Figure 2.3 below), Librarianship and Information
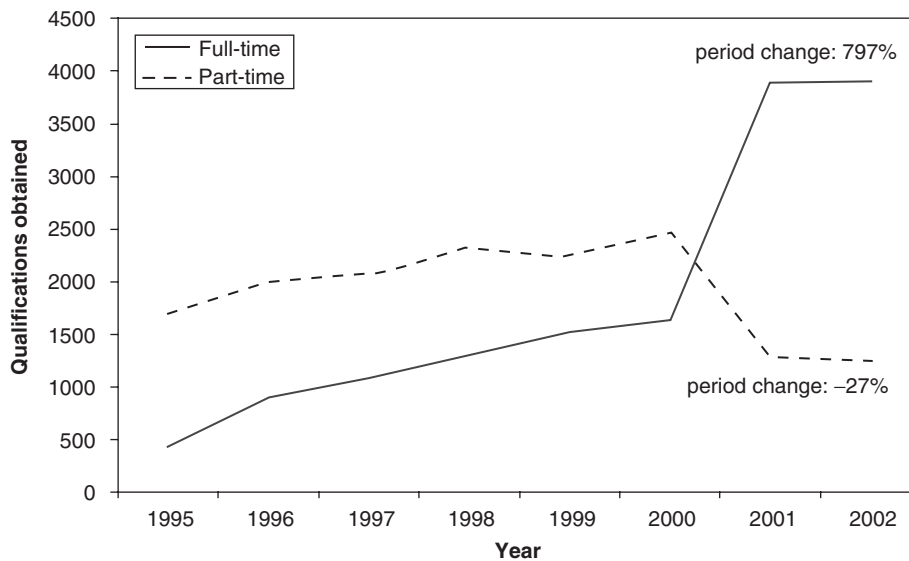
FIGURE 2.3   **Total higher degree qualifications obtained in the UK – Biological Sciences**
Source: Higher Education Statistics Agency (http://www.hesa.ac.uk)

Science, subjects allied to Medicine, Computer Science, Combined Studies, and Humanities. The analyses of HESA data for all subject areas is provided in Appendix 2 (Higher degree qualifications obtained in the UK 1995–2002).

Types of postgraduate study

Postgraduate study, at its simplest, is advanced study that is beyond first degree or undergraduate study. At this level there are a range of qualifications available – all have associated entry requirements, modes of delivery, assessments and costs. Provided here are the most common (and popular) postgraduate programmes of study on offer in UK higher education institutions.

POSTGRADUATE CERTIFICATE (PG CERT.)

The Postgraduate Certificate is a taught programme usually delivered on a part-time basis for up to two years. An increasing number of Certificate programmes are now being delivered through intensive (usually two- to three-day) teaching

blocks enabling the entire programme of study to be completed within a shorter period of time. Assessment for Certificate programmes is continuous (report/ essay/project-based), although some elements may be assessed through examination. Postgraduate Certificate programmes can begin at any point during the academic year although popular enrolment periods are September/October and January/February. A number of providing institutions allow Certificate programmes to be used as the preliminary stages of a Masters qualification (further coursework and/or project work providing the required element to enable the conversion).

Example: Postgraduate Certificate in Human Resources – University of Wolverhampton Business School

This Certificate programme is offered part-time or through intensive block release and consists of a number of modules that cover the Chartered Institution of Personnel Development's Core Management, People Management and Development, and Elective fields of study. Applicants are usually expected to have a degree or equivalent plus two years relevant experience.

Source: Prospects (http://www.prospects.ac.uk); University of Wolverhampton (http://www.wlv.ac.uk).

POSTGRADUATE DIPLOMA (PG DIP.)

At many institutions, the Postgraduate Diploma is similar to the PG Cert. It is a taught programme delivered on a full-time basis over six months to a year and on a part-time basis over two years. As with PG Cert. programmes, Postgraduate Diplomas can begin at any point during the academic year although popular enrolment periods are September/October and January/February. The Postgraduate Diploma has a higher taught element than the Certificate and is commonly accepted as a more advanced programme of study. It has secured widespread acceptance among students and funding organisations as providing advanced level study at postgraduate level.

Example: Postgraduate Diploma in Journalism Studies (Newspaper) – Cardiff University

This Diploma programme, offered through the School of Journalism at Cardiff, is a nine-month full-time course which is jointly accredited by the National Council for the Training of Journalists. Programme content includes: newspaper, broadcast and magazine journalism, photo journalism, and public and media relations. Applicants are expected to have a first degree (minimum 2.2 grade) or an equivalent qualification/ professional experience.

Source: Prospects (http://www.prospects.ac.uk); Cardiff University School of Journalism (http://cardiff.ac.uk/jomec/).

MASTER'S DEGREES (MAS, MSCS)

Masters degrees are the most popular form of postgraduate study. They are widely recognised as providing academic currency for students and funding organisations alike. Generally, MAs are less quantitative and more qualitative than MScs and some are more general higher degrees than MScs. As a result, background knowledge and/or experience are often prerequisites of MSc programmes. For both programme types, applicants are usually expected to hold a first degree – some funding organisations restrict their funding to those achieving a 2.1 or 2.2 grade. Masters degrees are offered on a one-year full-time basis or a two-year part-time basis and can be undertaken as taught programme or research programmes. The majority of Masters programmes are taught programmes of study consisting of a number of core subject areas or modules and a selection of subjects from a range of electives (modules selected from a range by the student). Research Masters programmes involve much more independent, non-directed study than their taught counterpart. Assessment for Masters programmes can vary but usually includes an examination element and the submission of a dissertation or thesis. Programmes typically begin in September/ October, with submission of final dissertation or thesis work by the following September.

Example: MA British Government and Politics – University of Essex

This Masters course, coordinated through the Department of Government at the University of Essex, is a full-time year-long programme of study. Coverage within the programme includes British political procedures and institutions, governments and parliamentary relations, public administration, policy analysis, and interest groups and local governments. Applicants are required to hold a good first degree or equivalent in relevant subject areas.

Source: Prospects (http://www.prospects.ac.uk); University of Essex (http://www.essex.ac.uk).

Example: MSc Computer Animation – University of Westminster

The MSc in Computer Animation, Department of Computer Science at the University of Westminster, is offered as a full-time (year-long) and part-time (two years and over) programme. Course coverage includes: foundations of animation, computer graphics and modelling, 3D animation, animation for interactive media, post-production techniques, and soundtrack production. The course is taught through teaching blocks of one-week intensive courses every four weeks for full-time learners and every eight weeks for part-time learners. Applicants are expected to hold a relevant first degree or appropriate work experience.

Source: Prospects (http://www.prospects.ac.uk); University of Westminster (http://www.wmin.ac.uk).

MASTERS IN BUSINESS ADMINISTRATION (MBAS)

MBAs are extremely popular higher degree qualifications for business managers and other professionals operating in a management or leadership area. These

taught programmes of study are offered by a wide range of higher education institutions on either a part-time (usually two years) or full-time (usually one year) basis. As MBAs are extremely expensive programmes of study (£15,000 isn't unusual for a full-time course), many students are financed through employing organisations or studentships/scholarships. The majority of programmes available are targeted towards business managers/leaders who have several years of work experience to draw upon whilst studying the various elements of the degree. In fact, a number of providers stipulate this as an entry requirement in addition to applicants (usually) holding a first degree.

Example: MBA (IT Management) – Oxford Brookes University

This MBA programmes is tailored towards those interested in pursuing IT Management as a subject specialism. It is offered as either a full-time (year-long) or a part-time (two years) programme of study. Applicants are required to hold a minimum of three years' managerial or professional experience and a first degree or equivalent qualification (including substantive management experience in place of formal qualification).

Source: Prospects (http://www.prospects.ac.uk); Oxford Brookes University (http://www.brookes.ac.uk).

MASTERS BY RESEARCH (MRES)

The Masters by Research postgraduate degree is a relatively new programme of study designed to provide students with key skills in research approaches and methods to enable them to operate as effective researchers in an academically focused environment. Such programmes are typically one/two years full-time and up to five years part-time. Learners are usually provided with taught input relating to core elements of research and the research process, and they are expected to undertake substantive independent research (with institutional support provided through academic supervision). Applicants for these Masters programmes are expected to hold a 2.1 grade or above in a relevant subject area and it is less usual for applicants to be accepted on to programmes with other experiences or qualifications. Assessment is via the submission of a thesis and oral examination.

Example: MRes Bioinformatics – University of Leeds

This year-long programme, offered through the University of Leeds, aims to provide scientists with the necessary subject-specific and transferable skills for successful research in Bioinformatics or Computational Biology. Applicants are expected to hold a first degree in a suitable scientific discipline, including Mathematics and Computer Science.

Source: University of Leeds (http://www.leeds.ac.uk).

MASTERS OF PHILOSOPHY (MPHIL)

Masters of Philosophy programmes of study tend to be offered in the broadly defined areas of the arts, sciences and social sciences. Applicants are expected to hold a first degree (at grade 2.1 or above), with few deviations from this standard stipulation. They are usually studied for two to three years full-time and up to five or six years part-time. Similar to the MRes, they usually consist of a mixture of taught and research elements. Assessment for programmes is via submission of a thesis and oral examination. Traditionally, MPhil programmes have been the favoured conversion tool for those wishing to progress further to PhD study.

Example: MPhil in Anthropology – University College London

The MPhil in Anthropology at University College London is a three-year programme of study designed for students who wish to follow an advanced research-based degree without intending to enter academic anthropology. Applicants are expected to hold a first degree (at grade 2.1 or above) in a related discipline area. The degree programme consists of a programme of study in which students may follow some graduate coursework in the first year while preparing to complete a thesis, based on non-field reading and research in the second year.

Source: University College London (http://www.ucl.ac.uk).

DOCTOR OF PHILOSOPHY (PHD/DPHIL)

These programmes are the highest level qualifications available through university study. They are increasingly viewed as essential qualifications for those interested in pursuing an academic career. Applicants are expected to hold a first degree (at grade 2.1 or above), and an increasing number of PhD programmes prefer applicants to hold a Masters degree. Programmes of study usually span three or four years full-time, or up to six years part-time. Assessment for traditional PhD programmes is through submission of a thesis and an oral examination drawing upon the submitted work. Some universities and funding organisations, such as the Economic and Social Research Council (ESRC), stipulate research training requirements for funded programmes and these can be undertaken at any point during the programme (although they tend to be covered in the early stages of study, such as year 1). Recently, a number of universities have developed variations of the traditional PhD. Some have a substantive taught element and others, such as the New Route PhD, consist of taught elements that are assessed through a mixture of examination, coursework and thesis submission.

Example: ESRC 1 + 3 programme – University of Kent, School of Social Policy, Sociology and Social Research

The Economic and Social Research Council funds a broad range of university-based research activities, including postgraduate studentships/research funding. The 1 + 3 is a funded programme providing training for full- and part-time students who have not previously completed a programme of substantive research training. Students are funded for a one-year research training Masters (two years part-time), and then funded for three years (five years part-time) for a PhD, subject to satisfactory progress. The '1' refers to the one-year Masters and the '3' refers to the three-year PhD. A recognised '1' programme within the School of Social Policy at Kent is the MA in Methods of Social Research. This year-long course provides the ESRC-required research methods training to enable learners to progress to supervised +3 study also at Kent.

Source: University of Kent (http://www.kent.ac.uk).

Example: New Route PhD programme

The New Route PhD is an integrated approach to PhD which coordinates research training alongside the development of traditional PhD project/thesis work. The scheme is recognised by a range of UK universities and has secured the support of the Higher Education Funding Council for England (HEFCE), the British Council and UK government departments. The scheme has an agreed framework of standards and adheres to quality associated processes and procedures as provided by the Quality Assurance Agency (QAA). The New Route programme at the University of Manchester is a three- to four-year programme of study consisting of a range of taught courses and research activities which combine to provide a coherent and structured research-based programme. Programme elements, or modules studied, include research skills and methodology, transferable skills modules covering subjects such as academic writing skills, presentations and time and project management, and developing research project work.

Source: New Route PhD (http://www.newroutephd.ac.uk); University of Manchester (http://www.umist.ac.uk).

Postgraduate training guidelines

The examples of programmes and courses detailed above indicate that there exists a wide variety of provision targeted at the postgraduate learner. All programmes and courses of study have some similarities as well as distinctive features in terms of their content, format, coverage, and the range of skill areas they seek to develop. For many years standards of provision within postgraduate education resided with the providing institution (the university or HE college). It was developed, managed and controlled according to the experiences and understandings of academics charged with developing, directing and teaching such provision. As a result, standards from course to course, and institution to institution, can differ considerably. However, more recently, attempts have been made collectively by universities to develop standards of provision which assure the quality and value of provision.

THE QUALITY ASSURANCE AGENCY FOR HIGHER EDUCATION

The Quality Assurance Agency for Higher Education (QAA) was established in 1997 as an independent organisation with a broad remit to monitor and

provide guidance in relation to quality assurance issues in UK institutions of higher education. It is funded through subscription from universities and the various UK university funding councils. The Agency's key role is to provide guidance and supporting material to universities concerning the quality and standard of university-level programmes and the qualifications to which they relate.

A variety of publications have been produced by the QAA that set out subject/discipline benchmarks for programmes offered through UK universities. Most of these are targeted at undergraduate programmes of study and therefore explore the development of skills and knowledge at a first degree level. At postgraduate level, limited subject-specific benchmarking guidance has been produced by the QAA, although more general statements and guidance material have also been produced. However, guidance material of use and relevance to postgraduate learners includes the distinguishing characteristics and associated skill and knowledge areas put forward by the Agency in relation to Masters level and doctoral programmes of study. All UK universities and HE colleges providing higher degree-level programmes of study should seek to ensure that their Masters (and we can include PG Certificate and PG Diploma programmes under this banner) and doctoral programmes observe this guidance. The QAA framework for higher education qualifications indicates that Masters level provision should enable learners to demonstrate the following upon completion of their programme of study.

QAA guidance relating to skills and knowledge at Masters level

Students should be able to:

- deal with complex issues both systematically and creatively, make sound judgements in the absence of complete data, and communicate their conclusions clearly to specialist and non-specialist audiences;
- demonstrate self-direction and originality in tackling and solving problems, and act autonomously in planning and implementing tasks at a professional or equivalent level;
- continue to advance their knowledge and understanding, and to develop new skills to a high level;

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and they should have acquired the skills necessary for employment requiring:

● the exercise of initiative and personal responsibility;
● decision-making in complex and unpredictable situations; and
● the independent learning ability required for continuing professional development.

Source: The Quality Assurance Agency for Higher Education, The framework for higher education qualifications in England, Wales and Northern Ireland – January 2001 (http://www.qaa.ac.uk/crntwork/nqf/ewni2001/contents.htm).

Similar ability and skill indicators are also provided for students engaged in doctoral programmes of study. Typical doctoral students would be expected to demonstrate the following upon completion of their advanced programme of study.

QAA guidance relating to skills and knowledge at doctoral level

Students should be able to:

● make informed judgements on complex issues in specialist fields, often in the absence of complete data, and be able to communicate their ideas and conclusions clearly and effectively to specialist and non-specialist audiences;
● continue to undertake pure and/or applied research and development at an advanced level, contributing substantially to the development of new techniques, ideas, or approaches;

and they should have:

● the qualities and transferable skills necessary for employment requiring the exercise of personal responsibility and largely autonomous initiative in complex and unpredictable situations, in professional or equivalent environments.

Source: The Quality Assurance Agency for Higher Education, The framework for higher education qualifications in England, Wales and Northern Ireland – January 2001 (http://www.qaa.ac.uk/crntwork/nqf/ewni2001/contents.htm).

Recently, postgraduate funding bodies have developed training guidelines for institutions to consider when providing postgraduate programmes of study. Most notably, the ESRC has developed, a detailed guidance document (ESRC, 2005). This complements guidance issued collectively by UK Research Councils and the Arts and Humanities Research Board (AHRB) (Metcalf et al., 2002). This joint statement identifies crucial skill areas for current and future postgraduate research students – it might be useful to assess your current level of skill in relation to the skill areas identified by the statement. You may already possess some of these skills, some may be taught as you progress through your programme of study, you may undertake specific training to acquire certain skills, and you may obtain skill elements through informal mechanisms (through, for example, working with colleagues, teaching, preparing and presenting work). In which area or areas are you currently strong, and which areas (given your intended career) require additional development or training? It may be useful to use Table 2.1 (detailing all the skill areas identified by the Research Councils/AHRB) to help coordinate, assess and plan areas of your professional development. To assist with this, and to focus developmental activities and actions, you may wish to discuss the results of your analysis with your supervisor/postgraduate tutor. It may be useful to link the results of your analysis within a personal development plan as discussed in Chapter 10 (Career planning).

There is now a widespread recognition that postgraduate study encourages the development of skills that have application and transfer beyond the classroom, lecture theatre or laboratory. Many of the postgraduate learners interviewed as part of the development work for this book highlighted the need for solid, transferable skills that would have a positive impact on their employment prospects upon completion of their studies. Dan's comment, below, was typical.

> *It's very important, at postgraduate level, to still seek to develop general skills training. For example, skills training in terms of time management is a crucial ingredient of any Masters programme. I procrastinate far too much, so some project management input will be very useful for me. Other generic skills might also include effective ways of writing, not only for advanced level work but also for presentations, etc. All of these are critical transferable skills. If you pick them up or develop them further during your postgraduate study, they will be useful in whatever work you eventually do - be it bricklaying or lecturing.*
>
> Dan, ESRC 1 + 3 student, University of Edinburgh.

TABLE 2.1 JOINT STATEMENT OF THE RESEARCH COUNCIL'S AND AHRB'S SKILLS TRAINING REQUIREMENTS FOR RESEARCH STUDENTS

Skill area	Do I already have evidence of these?	How can they be developed?	What is the timescale for developing these skills? (dates)	Who can help me with these skill areas? What are the other resource requirements?
(A) Research skills and techniques – to be able to demonstrate:				
1. the ability to recognise and validate problems				
2. original, independent and critical thinking, and the ability to develop theoretical concepts				
3. a knowledge of recent advances within one's field and in related areas				
4. an understanding of relevant research methodologies and techniques and their appropriate application within one's research field				
5. the ability to critically analyse and evaluate one's findings and those of others				
6. an ability to summarise, document, report and reflect on progress				
(B) Research environment – to be able to:				
1. show a broad understanding of the context, at the national and international level, in which research takes place				
2. demonstrate awareness of issues relating to the rights of other researchers, of research subjects, and of others who may be affected				

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by the research, e.g.
confidentiality, ethical issues, attribution, copyright, malpractice, ownership of data and the requirements of the Data Protection Act

3. demonstrate appreciation of standards of good research practice in their institution and/or discipline

4. understand relevant health and safety issues and demonstrate responsible working practices

5. understand the processes for funding and evaluation of research

6. justify the principles and experimental techniques used in one's own research

7. understand the process of academic or commercial exploitation of research results

(C) Research management – to be able to:

1. apply effective project management through the setting of research goals, intermediate milestones and prioritisation of activities

2. design and execute systems for the acquisition and collation of information through the effective use of appropriate resources and equipment

3. identify and access appropriate bibliographical resources, archives, and other sources of relevant information

(Continued)

TABLE 2.1 (CONTINUED)

Skill area	Do I already have evidence of these?	How can they be developed?	What is the timescale for developing these skills? (dates)	Who can help me with these skill areas? What are the other resource requirements?
4. use information technology appropriately for database management, recording and presenting information				
(D) Personal effectiveness – to be able to:				
1. demonstrate a willingness and ability to learn and acquire knowledge				
2. be creative, innovative and original in one's approach to research				
3. demonstrate flexibility and open-mindedness				
4. demonstrate self-awareness and the ability to identify own training needs				
5. demonstrate self-discipline, motivation, and thoroughness				
6. recognise boundaries and draw upon/use sources of support as appropriate				
7. show initiative, work independently and be self-reliant				
(E) Communication skills – to be able to:				
1. write clearly and in a style appropriate to purpose, e.g. progress reports, published documents, thesis				

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2. construct coherent arguments and articulate ideas clearly to a range of audiences, formally and informally through a variety of techniques

3. constructively defend research outcomes at seminars and *viva* examination

4. contribute to promoting the public understanding of one's research field

5. effectively support the learning of others when involved in teaching, mentoring or demonstrating activities

(F) Networking and teamworking – to be able to:

1. develop and maintain cooperative networks and working relationships with supervisors, colleagues and peers, within the institution and the wider research community

2. understand one's behaviours and impact on others when working in and contributing to the success of formal and informal teams

3. listen, give and receive feedback and respond perceptively to others

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Skill area	Do I already have evidence of these?	How can they be developed?	What is the timescale for developing these skills? (dates)	Who can help me with these skill areas? What are the other resource requirements?
(G) Career management – to be able to:				
1. appreciate the need for and show commitment to continued professional development				
2. take ownership for and manage one's career progression, set realistic and achievable career goals, and identify and develop ways to improve employability				
3. demonstrate an insight into the transferable nature of research skills to other work environments and the range of career opportunities within and outside academia				
4. present one's skills, personal attributes and experiences through effective CVs, applications and interviews				

ESRC POSTGRADUATE TRAINING GUIDELINES
AND THE POSTGRADUATE RESEARCHER

In recognition of the need to develop a coherent approach to the skill development of trainee academics, the ESRC issued revised training guidelines (in 2005) targeted at postgraduate research students. These guidelines indicated the skills and qualities required of postgraduates seeking to be recognised as professionally trained researchers in their respective fields of study. The training model favoured, and funded, by ESRC requires that research (PhD) students undergo training (usually in their first PhD-funded year of study) that prepares them for research-active academic careers.

At a generic level, ESRC guidelines indicate that funded students are expected to have acquired a range of research-based skills and have the ability to employ them in research work. Specifically, these skill areas include:

- Comprehension of basic principles of research design and strategy, including an understanding of how to formulate researchable problems and an appreciation of alternative approaches to research.

- Competency in understanding and applying a range of research methods and tools.

- Capabilities for managing research, including managing data, and conducting and disseminating research in a way that is consistent with both professional practice and the normal principles of research ethics.

- Understanding the significance of alternative epistemological positions that provide the context for theory construction, research design and the selection of appropriate analytical techniques (ESRC, 2005: 23).

At the discipline or subject level, the ESRC publish guidance material relating to content and skill areas across 18 subject areas. Examples within each of these are provided below. More detailed information, fully describing the subject areas and desirable coverage of programmes within them, are provided on the ESRC website (http://www.esrc.ac.uk). The guidance notes below articulate the general skills required for those wishing to be recognised as professional researchers within specific subject areas. Even for those postgraduate students not funded through ESRC awards, these guidelines provide important 'markers' of skill requirements issued by one of the most influential research funding organisations in the UK. A useful exercise may be to assess your current position in relation to the summary skill areas/issues identified that most closely match your own discipline.

ESRC subject and discipline guidelines

Area and Development Studies

Research in this area is likely to be grounded in at least one social science discipline, but will be informed by an advanced understanding of the theories and methods of related disciplines. Upon completion of their training, a postgraduate researcher in this area will have a sound grasp of:

- at least one social science discipline, including qualitative and quantitative social science research methods and their application to a given area
- when appropriate, a good working knowledge of a relevant language, adequate for at least reading and understanding research materials relating to the chosen geographical area(s)
- the cultural and historical background of an area(s) and relevant knowledge of contemporary economic, social and political developments
- the history and culture of international development cooperation and its institutions, especially as these impact on the area of study.

Demography

Demography is the study of human populations and includes the analysis of characteristics including age, sex, marital and health status and the composition of families and households. This discipline includes social demography which is concerned with the explanations and consequences of population trends and differentials, drawing upon a range of relevant disciplinary perspectives. Postgraduate students in these areas should expect to develop skills and expertise in:

- demographic data sources (such as population registers, censuses, health surveys, historical records)
- analytical methods (including population structures, migration statistics, patterns and trends)
- demographic concepts and models
- theoretical developments in population studies
- analytical tools and approaches drawn from relevant social science discipline areas.

Economic and Social History

Research programmes in this area will build on the particular strengths of each institution, some specialising in Economic History, some in Social History, and others

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may cover both. Upon completion of their research training it is expected that students will have acquired:

- an ability to identify, initiate and complete a substantial piece of research in Economic or Social History
- an ability to draw on key concepts from one or more of the social science disciplines
- an appreciation of the advanced literature in one or more areas of economic and social history
- a familiarity with historiography, historical explanation and research methods in history
- an understanding of appropriate statistical, computing and other techniques relevant to data collection and analysis.

Economics

Economics research draws upon a range of methodological approaches but typically it involves observation, abstraction, the construction of models and the testing of the hypotheses to which these give rise. Data and data collection can play a central role in the process of assessing, refining and validating analysis and the development of techniques for analysing data is a key feature of the subject. A key part of initial training should focus upon developing skills and knowledge in:

- microeconomic theory and analysis
- macroeconomic theory and analysis
- quantitative methods
- econometric theory and methods.

Education

Educational research may include any enquiry which promotes theoretical and/or empirical social science understanding of educational and/or learning processes and settings, or which informs judgements and decisions about educational policy and practice. Research may be conducted in any social context including formal educational settings, and industrial, commercial and professional situations or informal contexts (such as parent–child interaction, self-help groups or local communities). Postgraduate research students in Education should have training in philosophical issues in educational research including an introduction to:

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- epistemological and ontological issues in the philosophy of social science and the philosophical underpinnings of educational theories
- the nature of theory and explanation in education
- the philosophical assumptions underlying different methods of empirical enquiry, e.g. evaluation and action research
- the use of a range of concepts such as objectivity, subjectivity and reflexivity in educational research
- the relationship of the researcher to the researched and connections between theory and educational practice, including the nature of professional knowledge
- interpretations of the concept of education and their implications for research and the role of values in educational theory and research methodologies.

Human Geography

This area is fundamentally an interdisciplinary endeavour, with research links stretching from the arts and humanities through the social sciences to the natural sciences and technology. Human Geography deals with a diverse range of subject matter and it necessarily engages with a broad spectrum of philosophies, epistemologies, theories and methods. It emphasises that different theoretical and epistemological positions require different forms of evidence and methods of analysis. Professional researchers in this area are expected to:

- understand relations between physical and human aspects of environments and landscapes
- recognise that spatial relations are inherent to human activity, and that they reflect and re-make social relationships
- understand how the distinctiveness of place is constituted and continually re-made by the interaction of natural and social processes, and how places influence the constitution and unfolding of such processes
- be aware of the significance of spatial and temporal scales for social and natural processes and their interactions
- appreciate the plural character of the discipline
- exhibit knowledge of a range of theoretical and methodological approaches appropriate to the definition, collection, analysis and interpretation of evidence.

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Science and Technology Studies
This is a wide-ranging field which examines the social, economic, historical, man-agerial and/or political dimensions of science, technology and innovation. The field seeks to recruit students who combine strong academic ability in their original dis-ciplines with critical and flexible intellectual abilities and an enthusiastic interest in the issues confronted in the field. As a result of the diverse nature of this area, and the wide-range of experiences of postgraduates associated with it, research training is expected to include:

- an in-depth and critically analytical grasp of key literature in some domain of the subject area
- practical experience in the successful design and management of a research project
- competence in the operational use of at least one systematic method in both data collection (or compiling data sets from existing sources) and data analysis
- effective integration of empirical material and conceptual argument
- an enthusiasm for pursuing further research in the field.

Linguistics
Linguistics is concerned with the description, analysis and theorising of language in all its forms. Postgraduate researchers operating within this area will require further training, usually in the form of deepening knowledge acquired in their first degree (and also professional) work. Students trained in linguistics would normally be expected to have knowledge of a substantial subset of the following issues in the first year of their research training:

- knowledge of standard descriptive terminology
- theory construction, problem formulation and explanation
- the nature and status of linguistic data; the role of formalisation
- linguistic argumentation and the status of counter-examples
- the search for universals
- language variations and change

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- language acquisition and learnability
- the relationship of linguistics to adjacent disciplines
- in-depth knowledge of one or more paradigms of description, theorising and research specific to the relevant sub-discipline as revealed in assessed work appropriate to the desired learning outcomes.

Management and Business Studies

Management research seeks to understand and explain the activity of managing, its outcomes and the contexts in which it occurs. As an academic field of enquiry it is heterogeneous, utilising frameworks and research methods derived from adjacent disciplines, predominantly in the social sciences. Postgraduate researchers operating within this area should show that they are capable of the appreciation and critical assessment of:

- alternative views of academic issues and management problems
- organising information and constructing a coherent argument
- ordering data and views through the writing, numerical and basic research techniques typical of a good final year undergraduate project or dissertation
- using library and online information sources
- organising an initial project outline
- individual project management.

Environmental Planning

Students entering the Planning, Environmental and Housing research fields should have an opportunity to acquaint themselves with a broader range of research issues and approaches than are offered by their own investigation. An appreciation of the various traditions in the social sciences should be supplemented by an introduction to the underlying theoretical perspectives in Planning, Environmental and Housing Studies and their relationship to research and policy analysis. Relevant core areas of training are likely to be drawn from:

- planning history, theory, techniques, law and practice
- local and regional planning theory and practice
- spatial planning
- regional analysis

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- policy and development
- impacts of national, regional and local governance and policy guidelines
- urban analysis, policy and regeneration
- analysis of national, regional and local housing systems
- housing management, development and community planning
- social exclusion; economic development and the economics of planning
- European and international aspects of planning.

Political Science and International Studies

Political Science and International Studies covers a broad range of issues. Post-graduate students working in these areas would be expected to use material from a variety of cognate disciplines. Relevant training within these broad areas should include:

- (in the area of political behaviour) specialised training in the primary methods of collecting and analysing data at mass and elite levels
- (in Public Policy and Public Administration) training in case selection, public policy analysis, theories of decision-making, organisational theory and wider theories of governance
- (in International Politics/International Studies) specialised training in: the history of interstate practices; the key theories and concepts of advanced international politics, including the application of these to real world case studies; and international political theory
- (in International Studies and History) specialised training in the philosophy of history, the main historiographical trends of the twentieth century and case study analysis and archival research.

Psychology and Cognitive Science

This discipline area covers the scientific study of all aspects of human behaviour, though some biological areas of psychology are excluded from ESRC support. By the end of their research training, students within this discipline area should have a knowledge and understanding of a range of issues underlying the discipline of psychology, including:

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- philosophy of science
- origins and nature of cognitive science
- the nature and limitations of the scientific method and the main alternatives to this method
- the nature of psychological knowledge and how it is embedded within its biological, social and cultural context
- nature of theory construction in cognitive science and methods of testing theories
- development of theories in Psychology, including current and emerging issues; this may be geared towards the general area of the student's proposed research.

Social Anthropology
Social Anthropology is concerned with the comparative study of human social and cultural life and is best characterised by the key features – ethnography, holism, comparison and theory – which are present in virtually all anthropological research. Social Anthropology's central mode of research is long-term ethnographic fieldwork. Programmes in Social Anthropology are expected to recognise and explore the following areas:

- anthropological methodologies that build upon a solid epistemological basis taught through a combination of classroom discussion and hands-on practical exercises
- anthropological practice which rests upon a critical and reflexive approach to knowledge, recognising that the construction and conduct of a programme of research are themselves social and cultural activities
- seminar participation which trains students to follow through the process by which long-term fieldwork contributes to social scientific knowledge
- the development of general and transferable skills such as critical and flexible judgement, interpersonal and collaborative skills, language acquisition, familiarity with survey methods, interviewing skills and social documentation
- the development of discipline-specific skills in social understanding, awareness of context, cultural translation and mediation, and the ability to represent diverse epistemologies within a single frame.

Social Policy and Health Studies
Social Policy and Health Studies draw on a wide range of professional and disciplinary backgrounds. Students are expected to use material from a variety of disciplines and to be able to work in a multiplicity of formal and informal research settings, with

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differing relationships to the policy process, often alongside people with different orientations to research. Each subject area has its specific own sub-areas with their own needs and intellectual traditions. Indicative coverage within these areas includes:

- explanatory frameworks that have played a major part in the study of the subject
- an understanding of the relationship between major social trends and social and health policy and practice
- an understanding of the importance of institutions and institutional mechanisms, including organisational and professional groups, to the delivery of health and welfare
- an appreciation of the relationship between economic, social and health policies
- knowledge of the cause, development and differential experience of social and health problems (such as poverty, family breakdown or illness) among different social groups
- the consequences and impacts of policies, practices and technological advances on individuals, groups and communities and the ways in which users understand, experience or shape policy and practice.

Social Work
Social Work research takes a variety of forms and engages with a broad range of individuals, groups and communities. The diversity and complexity of Social Work as a form of practice requires variation in specific training provision. Students undertaking research training in Social Work will be expected to demonstrate:

- awareness of, and sensitivity to, the ethical and governance aspects of their research
- reflexivity about their own and others' roles in the research process
- knowledge of the social and political contexts and uses of research
- knowledge of and sensitivity to conducting research in emancipatory ways.

Social-Legal Studies and Criminology
Socio-Legal Studies and Criminology are areas in which generic social science skills are predominantly employed. These subject areas are multidisciplinary in that they draw on basic theories and methods developed in the social science disciplines.

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Socio-Legal Studies may make more use of traditional legal research skills, but this is not necessarily so. Students in either area might reasonably be expected to develop skills, knowledge and understanding in the following areas:

- competing perspectives on what crime is, crime statistics, patterns and trends
- critical reading of the contribution of research to understandings of crime and justice
- an appreciation of ways in which criminological research and theory might inform social policy
- the social history of the discipline of Criminology and/or Socio-Legal Studies
- the relevance of modern social theory for an understanding of crime and punishment
- competing political science and philosophical perspectives on the role of the state in legally regulating citizens' behaviour
- an appreciation of the potentiality and limits of combining legal and other kinds of social scientific analysis and the methodological problems confronting such enquiry
- a knowledge of and ability to evaluate existing literature and research in a Socio-Legal field.

Sociology

Sociology as a subject potentially encompasses the examination and analysis of all aspects of social life and social relations, its distinctiveness arising from its focus on the social and in the approaches to understanding the social that it deploys. Sociology seeks to examine and analyse how societies, cultures, institutions and practices came into being, how they are currently organised and constituted, and how they are changing. Students undertaking research training in this area will be expected to acquire advanced knowledge of approaches to, and analysis of:

- the epistemological and ontological questions that underpin sociological research
- the range of sociological theories that have shaped, and continue to shape, Sociology as a discipline and the practical and methodological implications of such theories for research
- the interrelation between individuals and societies and between history, biography and social change
- social diversity, social division and social inequality.

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Statistics, Methods and Computing
This area is concerned with methodological research and may include the development and refinement of new research methods; the evaluation and refinement of existing research methods; the application of research methods to empirical data, where the research is driven primarily by methodological not substantive concerns; the interrelation and/or triangulation of different methods; and the epistemological and logical foundations of research methods. Required levels of expertise and skills will vary according to the specific training route undertaken.

Generally for *research methods* students, coverage will include:

- building on students competence established under their generic research methods training to develop a high level of expertise in a range of research methods by learning the theory, practice, uses and limitations of these methods; they will develop expertise in critically appraising and comparing alternative methods and in assessing which methods are appropriate in different circumstances.

Generally for *Social Statistics* students, coverage will include:

- building on students competence established under their generic research methods training to develop a high level of expertise in a range of statistical methods of research design, data collection and analysis, relevant to the social sciences, by learning the theory, practice, uses and limitations of these methods; they will learn which methods are appropriate in different circumstances and develop a critical appreciation of the use of statistical methods in the social sciences.

There are additional guidelines within the broadly defined field of sociology which apply to the cognate areas of Cultural and Media Studies, and of Women and Gender Studies.

Source: ESRC *Postgraduate Training Guidelines* (4th edn, 2005) (http://www.esrc.ac.uk).

If you are currently or are considering becoming a research-based student, it might be useful to consider at what stage during your training/programme you will develop these skills, and how they might link into the skill areas identified in

Table 2.1 above. Usually, these are dealt with in formal research methods modules (as part of Masters programmes or other postgraduate-level provision). However, for some postgraduates – working in collaboration with a supervisory team or tutors – more informal development activities are employed to 'train up' researchers. Nevertheless, the skill areas defined by ESRC provide useful guidance for any postgraduate engaged in a research-based programme of study. This should help to provide an additional useful reference point of expected skill and knowledge required of competent postgraduates, researchers and future academics operating within your environment.

Reference list and useful reading & websites

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