

KEYNOTE:
RE-IMAGINING OUTCOMES FOR RESEARCH EDUCATION:
A NATIONAL CROSS-DISCIPLINARY FOCUS ON STUDENTS

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Introduction

Recently in the UK, much attention has been focused on research degree programmes (RDP) and their outputs. Traditionally, and literally, the output from a research degree is the thesis: a scholarly piece of original work. However, in the UK, research degrees are not necessarily seen as a vocational qualification, and the output of a 'trained researcher' is increasingly seen as an equally important output—with the thesis the evidence of the training.

This change in emphasis is a result of both the changing employment environment and the growth in doctoral numbers in the UK. In 2001 the UK had 110,000 doctoral students registered at 166 higher education institutions (HEIs): 118 of these institutions were universities, the remainder Colleges or Research Institutes. This represents an increase of 23% over the past five years, caused mostly by a steady increase in international students (36,000 of the total). There is considerable disparity of distribution across HEIs, with just five universities attracting 25% of all doctoral students and 97 HEIs representing the lower quartile.

Despite the trend of the doctorate becoming a non-vocational qualification (over 50% of doctoral graduates do not have a research or teaching position as their first destination), surveys of the aspirations of the doctoral students indicate that almost all want to stay in research. About 40% will initially stay in academic research; however, only 10% will still be in research in seven years time.

Recent Developments in Research Education in the UK

Over the past few years, the UK has experienced a number of developments related to postgraduate research degrees, as is shown in Figure 1.

The UK Research Councils, which fund about a third of UK PhDs, were concerned from the late 1980s with completion rates and so introduced targets for HEIs. However, it wasn't until the introduction of the first Code of Practice for RDPs in 1999¹ and the Harris 'Fundamental review of research'² in 2000 that RDPs came on to the national agenda.

The Code of Practice identifies a set of precepts that address the quality of the research, the research infrastructure and environment, supervisory arrangements, skills training, strategies for monitoring and assessing progress and feedback mechanisms.

¹ Quality Assurance Agency for Higher Education Code of practice for the assurance of academic quality and standards in higher education. Section 1: Postgraduate research programmes - January 1999
<<http://www.qaa.ac.uk/public/COP/cop/contents.htm>>

² HEFCE 00/37 'Fundamental review of research'

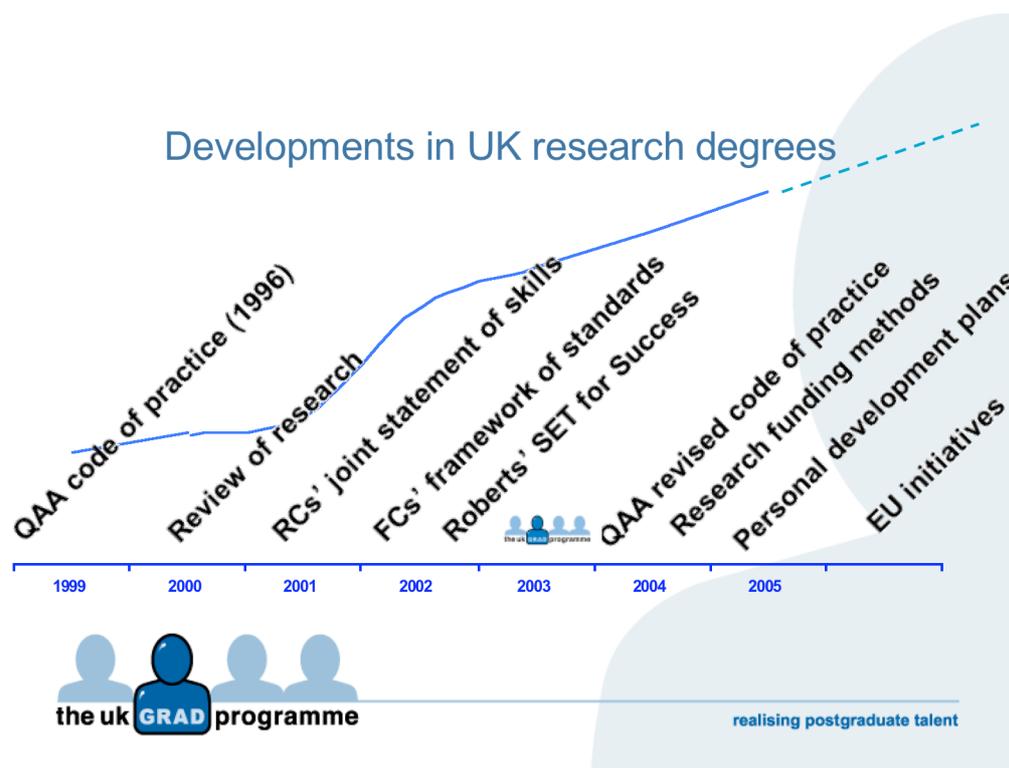


Figure 1: Developments in UK research degrees

The Harris review recommended that:

- research training be a separate, but linked component of the Research Assessment Exercise (RAE)
- funding for research training be calculated and identified separately from research funding
- minimum requirements for research training funding be specified
- the RAE to be extended to establish whether departments had complied with minimum standards.

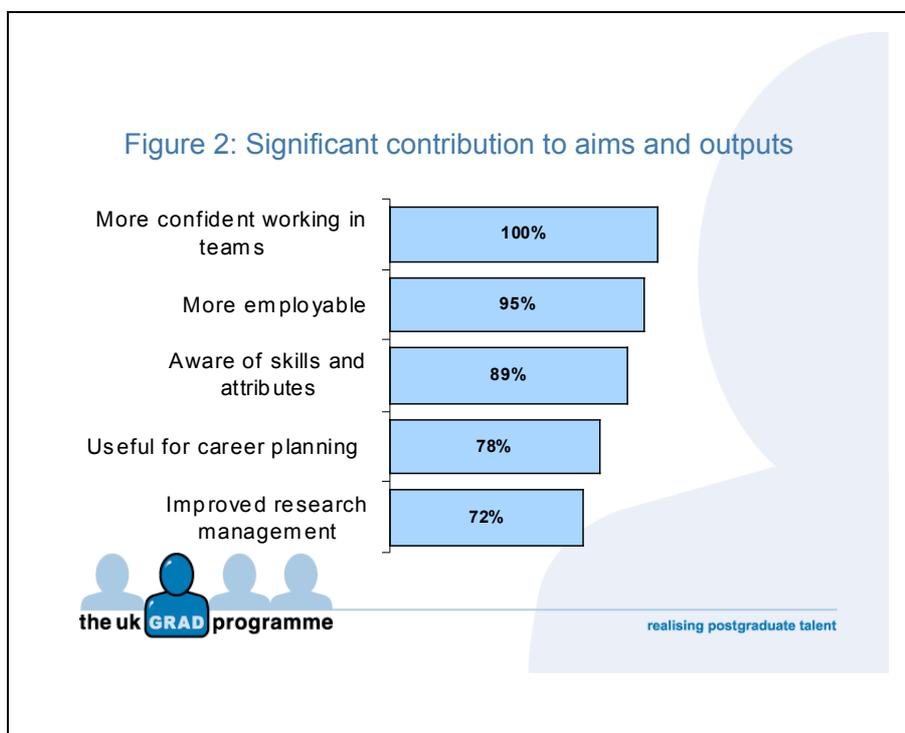
The Harris recommendations led to the UK Funding Councils commissioning a study to develop a set of threshold standards and an underlying framework of good practice for postgraduate research degree programmes, published in 2002³.

The threshold standards proposed were built on good practice already existing in the sector. They are intended to represent an essential minimum for the provision of high quality RDPs across all disciplines, types of RDP, and modes of study. To encourage ongoing improvement in provision beyond the minimum level represented by these standards, an underlying framework of good practice was also proposed. This framework, which is built upon the precepts in the existing QAA Code of Practice, is not intended to be prescriptive, but rather for institutions to adopt according to local conditions. The purpose of the framework is threefold:

- (1) the establishment of a training environment of appropriate breadth, depth and quality
- (2) the development of consistent practice that is visible and subject to independent review
- (3) informed, responsible and empowered student ownership of the postgraduate experience.

³ Improving standards in postgraduate research degree programmes http://www.hefce.ac.uk/pubs/rereports/2002/rd11_02/

This report was followed by extensive informal and formal consultation processes⁴ and is in the process of being incorporated into a revised Code of Practice⁵ for research degree programmes, to be published in September 2004.



Another important development for RDPs evolved from a good practice workshop held by the Research Councils' Graduate Schools Programme, the forerunner of the UK GRAD Programme. Representatives from a range of HEIs and PhD funders set out to identify whether there was a set of generic competencies for doctoral graduates, irrespective of their discipline. This led to the publication in 2001 of the Research Councils and AHRB joint statement of skills requirements for research students. The skills that doctoral students are expected to have or develop during their degree studies include:

- research skills and techniques
- research environment
- research management
- personal effectiveness
- communication skills
- networking and team working
- career management.

The joint statement has been widely accepted by the HE sector and is integrated into the framework of standards and subsequent initiatives on RDPs.

⁴ Funding Councils formal consultation www.hefce.ac.uk/pubs/hefce/2003/03_23.htm

⁵ QAA revised code of practice consultation <http://www.qaa.ac.uk/public/COP/cop/draft/CircularCL0408.htm>

An equally important initiative in the development of RDPs is the Sir Gareth Roberts' Report, *SET for success*⁶. This report looked at the supply of scientists and technologists throughout the education sector and made specific recommendations about research degrees.

It supported the Harris and subsequent Framework recommendations that funding for RDPs should be based on minimum research training requirements and, additionally, that attention should be given to developing creativity and career development plans for researchers in academia. Roberts also recommended an increase in PhD stipends, an increase in average length of scholarship, and an increase in starting salaries and progression rates.

The report found that PhDs are not prepared adequately for a career in academia or in business, and that there is insufficient training in transferable skills and commercial awareness. To counter this, Roberts recommended that every doctoral student should have two weeks of generic skills training each year, and that this should also be a requirement for postdoctoral researchers. The UK government is funding this requirement for Research Council funded researchers.

Interestingly, in terms of the attractiveness of a career in research, the issues are similar for both academic and non-academic employers. Academic careers are attractive neither in starting salary nor progression, particularly now that more UK graduates are carrying high levels of debt. Even in research careers outside academia, employers are struggling to compete with attractive salaries for non-research jobs, particularly the financial services.

Roberts also recommended that there should be better dialogue between universities and other employers to determine the long-term skills requirements for researchers and to promote more collaboration in research and teaching.

The final UK initiative that we need to consider is the 2004 Review of Research Funding Methods⁷, which is considering:

- removal of research student numbers from the QR volume measure
- removal of first year students from teaching stream
- aggregation of research funds with the supervision fee
- allocation of a stable per capita resource unit based on cost.

This review could have a significant impact on funding streams for RDPs. It is likely that a fixed pot of funding will be redistributed, but it is difficult to predict who will be the winners and losers. By removing students from the teaching stream, institutions and departments that currently receive funding for only first year research students could lose this funding. Alternatively, if a flat rate per capita is proposed, highly rated departments could see their overall funding fall.

Finally, a few other initiatives in the UK and the rest of Europe will impact on UK RDPs.

A group of organisations involved in HE are working together to help HE institutions and academics develop Progress File⁸ policies and practices. It is proposed that Student Personal Development Portfolios be implemented between 2005 to 2010 for all students enrolled in all higher education

⁶ Sir Gareth Roberts' Report, *Set for Success*: The supply of people with science, technology, engineering and mathematics skills www.hm-treasury.gov.uk/roberts/

⁷ Review of research methods consultation <http://www.hefce.ac.uk/Research/funding/rfconsult/>

⁸ Progress files for Higher Education <http://www.qaa.ac.uk/crntwork/progfileHE/contents.htm>

degrees, including research degrees. While each institution will determine its own approach, this will be within a national framework.

We should also note recent developments within the European Community. Of particular interest is:

- the Bologna Agreement⁹, which is aimed at the harmonisation of all degree qualifications across Europe, including research degrees
- the development of a 'European Researchers' Charter'¹⁰, which encourages mobility, equal opportunity, and the sharing of good practice in research career management
- the declared aim of the European Community to reach by 2010 the target of 3% of GDP invested in Research and Development¹¹. To reach this target it has been calculated that there will be a need for 700,000 additional researchers.

UK GRAD Programme

The UK GRAD Programme has been running in various forms since 1968 (mostly recently as the RCGSP) and is funded by the national Research Councils. The vision of the UK GRAD Programme is: 'For all postgraduate researchers to be fully equipped and encouraged to complete their studies and make a successful transition to their future careers'.

The objectives of the UK GRAD Programme are to:

- raise the profile of the importance of personal and professional development in researcher training for all stakeholders.
- encourage the integration of, and opportunities for, personal and professional skills development in research degree programmes
- encourage and share good practice within higher education institutions
- continue as a national resource, to innovate, develop and provide exemplars ways for embedding personal and professional development and career management skills

National activities include conferences and regional workshops, surveys and reviews, development of materials and resources, and support for a web site and gateway.

Many of these activities are implemented at the regional level through a network of 'Hubs', where the emphasis is on sharing good practice, establishing local networks, and providing regional events that bring together parties interested in developing RDPS.

Further information about the Programme is available at the web site: <http://www.grad.ac.uk/>

The UK GRAD Programme also has a national and regional program of courses aimed at supporting the personal development and career management skills of researchers. Figure 2 shows how these courses have proved exceptionally effective at raising of researcher awareness of personal and professional competencies.

⁹ *The Bologna Process: progress towards the European Higher Education Area*
http://europa.eu.int/comm/education/policies/educ/bologna/bologna_en.html

¹⁰ *Researchers in the European Research Area: one profession, multiple careers*
http://www.europa.eu.int/comm/research/fp6/mariecurie-actions/news/headline18_en.html

¹¹ *Towards 3% of GDP* http://europa.eu.int/comm/research/era/3pct/index_en.html

Participants' comments about the GRAD activities are particularly illustrative:

On a GRAD school I learnt that I have the ability to do whatever I want and to achieve anything I want from my life: as long as I can focus and believe in myself.

...absolutely essential to evaluating my skills and opportunities.

In order to achieve its objectives, the UK GRAD Programme works directly not only with researchers, but also with each of the communities with a stake in RDPs as suggested by the following comments:

Influencing national stakeholders: ...a fantastic conference, I look forward to the national impact

Supporting HEIs: ...the support offered will be of great value as we further improve the range of skills development provision we offer to young researchers

Realising the value of PhDs to employers: ...postgraduate researchers bring maturity and highly transferable skills seldom found in graduates

Enabling universities: ...sharing good practice makes sure we are doing it the best way we can, ...a meeting of minds about how things will develop in UK postgraduate education

Engaging supervisors: ...researchers are more competent: it saves me work.

In summary, there is significant activity happening in UK research degree programmes. We have:

- a cross discipline definition of researcher competencies
- a common framework for all research degrees
- coherence from our national bodies
- the beginning of a cultural shift in attitude towards the development of researchers' personal and professional skills.

However, for all this good news, these initiatives do put tremendous strain on already hard-pressed institutions. One of our concerns has been expressed by Lord Sainsbury of Turville, Minister for Science in his foreword to the final report of the Research Careers Initiative¹² in which he focussed on supporting contract research staff:

Isolated from the wider national and institutional developments, the day-to-day experience of many individual research staff has, too often, not changed substantially for the better.

The UK GRAD Programme hopefully offers a support mechanism that enables institutions and academics to be more informed about these developments in RDPs and how they are being implemented across the sector. Hence they will be more able and willing to use and adapt them for their own situations and environments so the benefits touch the lives of all doctoral researchers.

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¹² Research Careers Initiative for contract researchers <http://www.universitiesuk.ac.uk/activities/rci.asp>