UK Case Study: University of Edinburgh

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Context – PhD & postdoc career paths in UK

• PhD
  – 3 or 4 year programme
  – Sometimes preceded by 1-year research Masters

• After PhD
  – Postdoc or Fellowship (sciences)
  – Teaching Fellow, postdoc or lectureship (humanities)
  – Wide range of other careers

• After postdoc…

Reference:
Context - PhD career destinations (3 years after graduation)

- Research in Higher Education – 19%
- Teaching and lecturing in Higher Education – 22%
- Research outside Higher Education – 13%
- Teaching outside Higher Education – 6%
- Other common doctoral occupations – 27%
- Other occupations – 14%


Context - PhD Culture Change

- Apprenticeship model of sole supervision
- Unstructured
- Little formal training
- Isolated
- Preparation for academic career

- Supervisory teams
- Structured progression and training
- Emphasis on formal training (specialist and transferable skills)
- Joining postgraduate and academic community
- Preparation for broader range of careers (including academia)
- Enhance researcher experience
- Increase completion rates
Context – Policy & Funding

- Knowledge economy and demand for high level skills
- Researcher careers and mobility

- UK - The Concordat to Support the Career Development of Researchers (UK) (2008)
Implications for researchers – especially during their PhD

• Getting started
  – e.g. language, computing & IT
  – orientation

• Completing a project
  – e.g. project planning, statistics, teamwork, time management

• Presenting results
  – e.g. presentations, thesis workshop, paper production

• Mixing with others
  – social and intellectual benefits
  – peer support networks

Implications for researchers – future careers in academia

• Creation of knowledge and frontier research
• Management and leadership of research groups and large projects
• Work across disciplinary, cultural and sectoral boundaries
• Engage in public, policy and commercial dialogue

Doctoral degrees beyond 2010: Training talented researchers for society (LERU Report)
and careers beyond academia
What employers say about PhD graduates…

• Enthusiastic, imaginative, creative
• Hugely valuable: thinking capacity, problem solving
• Self-starting, able to work without direct management
• High standard of written communication and presentations

Sectors actively recruiting PhD graduates:
academia, management consultancy, public sector,
technical/specialist industry, specialist consultancies,
teaching, civil service…

What do PhD job applicants need to improve…
(particularly when applying for non-academic jobs)

• Articulation/explanation of skills they have
• Verbal communication:
  – Especially in interviews
  – Making PhD topic accessible to non-specialists (e.g. employers)
• Commercial awareness and awareness of sector/employer applying to
Career Planning – particularly for postdocs

• Workshops, information and advice
  – Funding opportunities, career options, skills training
• Targeted support for postdocs
  – Career development reviews
  – Mentoring
  – University Code of Practice and guidance for research staff management

Transferable Skills Training at Edinburgh: Development through time
Development through time

- **PhD**
  - 1997 – transskills programme for science & medicine
  - 2001 – extended to whole university

- **Research staff**
  - 1998 SHEFC-funded pilot
  - University level Researcher Development Programme

- **Steady growth in provision & impact on culture through to 2003/04**

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**numbers attending supervisor briefing events since June 2003**

**supervisors and skills training**

from annual survey of postgraduate research students
transkills – workshops for PhDs

The Roberts’ Review - 2002

• Recommendation 4.2: PhD training elements
  – .....the training elements of a PhD – particularly training in transferable skills – need to be strengthened considerably.
  – ...should include the provision of at least two weeks’ dedicated training a year, principally in transferable skills, for which additional funding should be provided....

• Recommendation 5.3: A vision for postdoctoral researchers
  – ... [ensure] that all ... postdoctoral researchers have a clear career development plan and have access to appropriate training opportunities...

• Implementation - additional funding & reporting
Embedding the Roberts Agenda – a culture change project

• Initial strategy
  – expand, enhance, embed
• Phase 1: 2003/04 to 2006/07
  – Expand central provision, pilot local initiatives
• Internal Review: 2006/07
• Phase 2: 2007/08 to 2010/11
  – Build on success to date, accelerate progress by devolving part of the funding
• Managing transition to 2011/12 and beyond
  – Institute for Academic Development

Transferable Skills Training at Edinburgh: Examples of what we offer
Structures and Approach

- **University Structure**
  - 3 Colleges, 21 Academic Schools (Graduate Schools)
  - Support departments (Institute for Academic Development - transskills, Careers Service etc.)
  - University committees and working groups

- **Approach – variety and flexibility**
  - Embedded in School Programmes (e.g. specialist skills)
  - Embedded with central support (e.g. generic research)
  - Central programmes (e.g. professional development)
  - Central targeted (e.g. specific cohorts or topics)

Skills Development

- Teaching, organising seminars etc.
- Extra-mural activities - e.g. science communication
- Supervisor/PI support
- School/Department courses (mostly PhD)
- University courses – transskills, careers, computing services
- Identification of training needs, reflection, review, recording, awareness and articulation of skills

Prior experience

Individual advice & support e.g. careers

Web-based information & resources

External courses e.g. Vitae
Embedded: subject specific provision

- Research Methods in the Social Sciences
  - Compulsory, assessed, running over two semesters
- Research Methods in Arts, Culture & Environment
  - Compulsory, linked to student-organised conference, first semester
  - Includes sessions tailored to practice-based PhDs
- Animal handling, radiation, health & safety
  - Examples of compulsory workshops in some disciplines (especially laboratory science)
- SUPA Advanced Topics
  - Video conference courses for all Scottish physics PhDs

Embedded: Linking skills training to PhD milestones

- Why?
  - Engagement with students, Schools, supervisors
  - Impact
    - Increased (and explicit) awareness of skills development through PhD
    - Skills development improving PhD effectiveness
    - Positive reinforcement between the two
- How?
  - Early stages of PhD
  - Key points during PhD
  - Discussed at annual review
Training Needs Assessment during induction and annual review points students towards appropriate elective courses including:

- Effective Presentations (1), Effective Writing (any), Communicating Science to Non-Specialists (1 or 2), Scientific Computing Tools (usually 1), Computing Toolbox (any), Web Page Production (any), Research Grant Applications (3), Developing a Successful Career (3), Interviewing Skills (5), Entrepreneurship (any), IPR (any), Tutoring & Demonstrating (1)

Online provision: e.g. PG Essentials

- Online course for PhD researchers (developed at University of Melbourne).
- Flexible and interactive.
- Covering the essential knowledge needed to make the best start to a PhD.
- Register in September, October or January

http://www.transskills.ed.ac.uk/pgessentials.htm
Open workshops and short courses

• transskills for PhDs; RDP for postdocs
• Communication, project and time management, publishing, knowledge exchange, enterprise, teaching, career and personal development, information and IT skills, etc.
• Designed for researchers, free of charge
• Flexible – wide range of options and repeats

Edinburgh Local GRADschools

• Mix of disciplines
• 4-day residential
• Aimed at 2nd & 3rd years
• Taking stock of skills
• Looking at career options
• Tutors from range of sectors and organisations
• Time out from PhD to regain momentum
How the programme works

• Semester 1 – Full programme of business and enterprise workshops (www.transkills.ed.ac.uk/bet.cfm)
• Semester 2 – Mentoring teams and individuals through business plan competitions and events to gain business skills and experience (www.launch.ed.ac.uk)
• Summer – A residential course on Enterprise skills

Edinburgh COMPASS Programme

• Orientation courses and social events for International Postgraduate Research Students in Edinburgh
• A chance to socialise, gain an understanding of academic culture in the UK and build a network of peers from a variety of disciplines, universities and locations.
• Induction Event: Wednesday 29th September
• Book by emailing: transkills@ed.ac.uk
Researcher-led initiatives

- Funding aimed at communities of researchers
- Developed and led by researchers themselves
- Linked to formal and informal training
- Examples include: Research staff societies, networking, workshops, events, e-journals, EUSci

www.ed.ac.uk/schools-departments/researcher-development/staff/researcher-led-activities/initiative-fund

PhD Alumni Career Events

- PhD alumni in a specific discipline who are now in a range of careers
- Alumni focus on career decisions and relevance of PhD and other experience in career choice and success
- Short presentations followed by informal networking
- Careers Service presentation on next steps and support
Impact of research pooling and other examples of disciplinary collaboration

- EaST Chem
  - Scientific Paper Production (St Andrews)
  - PhD Thesis Workshop (Edinburgh)
- SUPA
  - Entrepreneurship event
- Mathematics
  - ICMS Generic skills training for postgraduate mathematicians in Scotland
- Social science networks

ResClim - Norwegian Research School in Climate Dynamics (www.resclim.no)

Need for a new type of scientist:
- Expert knowledge in depth
- Broader knowledge – climate system complex interactions
- Networking and collaboration
- Communication
- Ability to take active part in prediction, mitigation and adaptation

Activities funded:
- Intensive courses
- International workshops
- International summer schools
- Biannual symposium
- Annual meeting (students and supervisors)
- International research visits and conferences
Transferable Skills Training at Edinburgh: Impact of national developments

Partnership between Universities, national funding bodies and agencies

• Roberts Policy Forums
  – Research Councils, Universities and other agencies
  – Frank and open discussion of policy, approaches to implementation and challenges
  – Built common understanding and trust
  – Less prescription and game playing
  – More flexibility and genuine culture change
National Frameworks: Research Councils’ Joint Skills Statement

- Research skills and techniques
- Research environment
- Research management
- Personal effectiveness
- Communication skills
- Networking and team working
- Career management

www.vitae.ac.uk/1690/Joint%20Skills%20Statement.html

Now evolving into Vitae Researcher Development Framework

Quality Assurance and Monitoring Structures

- Quality Assurance Requirements:
  - QAA Code of Practice for Research Degree Programmes
  - UK Concordat for Management of Researchers
    Puts skills development into overall picture of support and experience

- National Surveys:
  - PRES (Postgraduate Researcher Experience Survey)
  - CROS (Career Researcher On-line Survey)
    Allows institutions to monitor their provision and benchmark this against national picture
Vitae - Support for researchers

- Website
  - doctoral researchers
  - research staff
  - careers
- GRADBritain
- GRADschools
- PhD planner
- PGR tips
- Balanced researcher
- Creative researcher

Vitae - Support for staff
supporting researchers

- Networks
  - Vitae connections
  - National & regional events
- Databases
  - Trainers and developers
  - practice/resources
- Programmes
  - Effective researcher
  - Careers in focus: academia, other sectors
- Publications
  - Hub newsletters, bulletins, Overview
  - Supervising a doctorate
Impact

• PRES (national survey):
  – Marked increase in satisfaction with skills development opportunities (86% met or exceeded expectations)
• Vitae Impact Framework:
  – Framework and range of case studies (engagement and outcomes)
• Vitae Cohort Study (3 years beyond graduation)
  – Value and relevance of PhD to a range of careers
  – Use of research and generic skills

looking to the future
Other emerging themes .... looking to the future

• Impact of changes in funding mechanism (Roberts)
• Institutional collaboration/cooperation
• Use of E-learning
• Moving the location/ownership of skills training closer to the main academic experience
• Researcher-led initiatives
• Links to employers (including placement programmes)
• Internationalisation, multi-disciplinarity, mobility

Getting in touch:

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References

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- What do researchers do? www.vitae.ac.uk/wrd
- Career stories portal www.vitae.ac.uk/careerstoriesportal
- Researcher development framework (RDF)
  www.vitae.ac.uk/rdf

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- CROS www.cros.ac.uk / www.vitae.ac.uk/cros