



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:

www.leru.org/files/publications/LERU_paper_Harvesting_talent.pdf

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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%

from “Doctoral graduate destinations and impact three years on 2010” - www.vitae.ac.uk/policy-practice/291901/What-do-researchers-do-Doctoral-graduate-destinations-and-impact-three-years-on-2010.html

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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**

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Context – Policy & Funding

- Knowledge economy and demand for high level skills
- Researcher careers and mobility
- EU - European Charter and Code (2005)
- UK - The Concordat to Support the Career Development of Researchers (UK) (2008)
- EU - Bologna 3rd cycle: Dublin descriptors (2004)
- UK - Revised QAA Code of Practice (2004)



Transferable Skills Training at Edinburgh: Implications for researchers



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

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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)

www.leru.org/files/publications/LERU_Doctoral_degrees_beyond_2010.pdf



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

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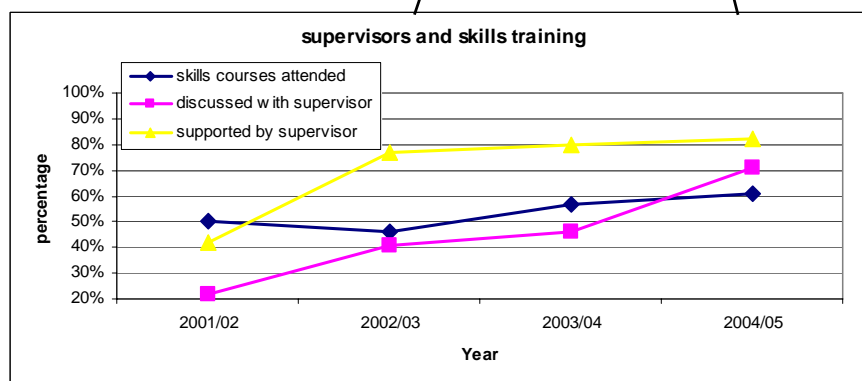
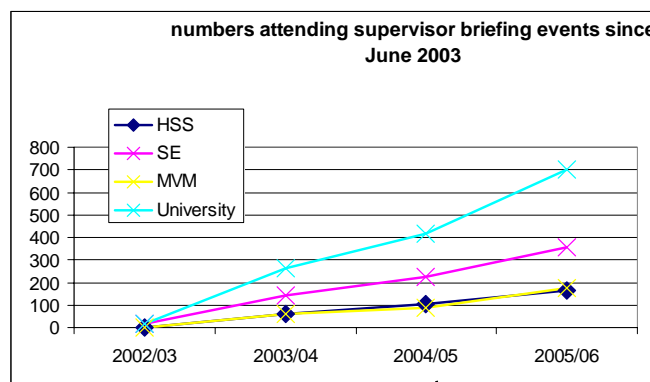
Transferable Skills Training at Edinburgh: Development through time

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Development through time

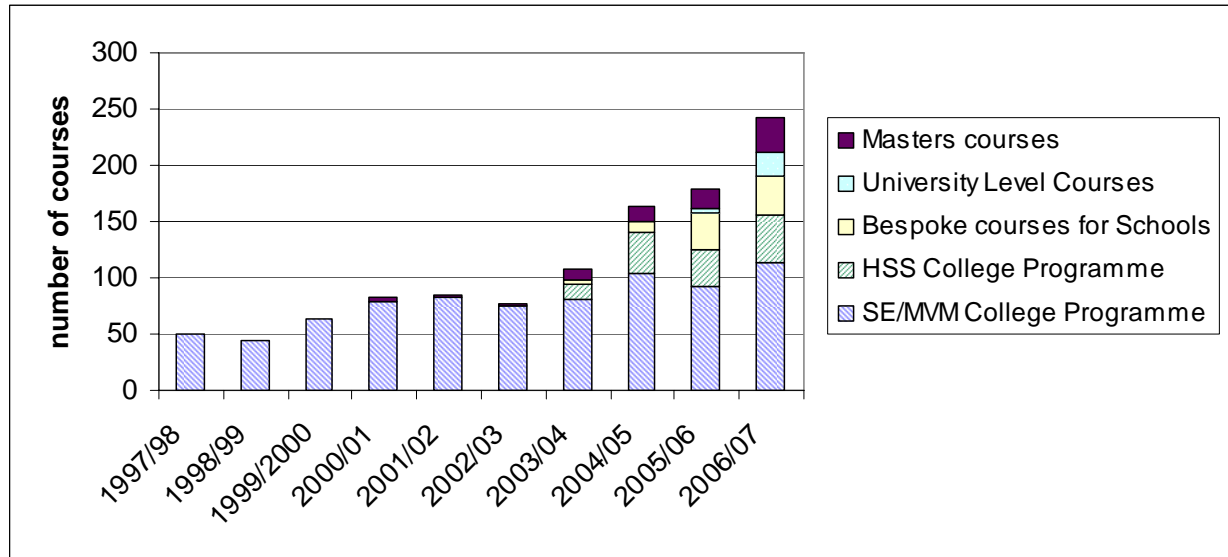
- PhD
 - 1997 – transkills programme for science & medicine
 - 2001 – extended to whole university
- Research staff
 - 1998 SHEFC-funded pilot
 - University level Researcher Development Programme
- Steady growth in provision & impact on culture through to 2003/04



from annual survey of postgraduate research students



transkills – workshops for PhDs



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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 16



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

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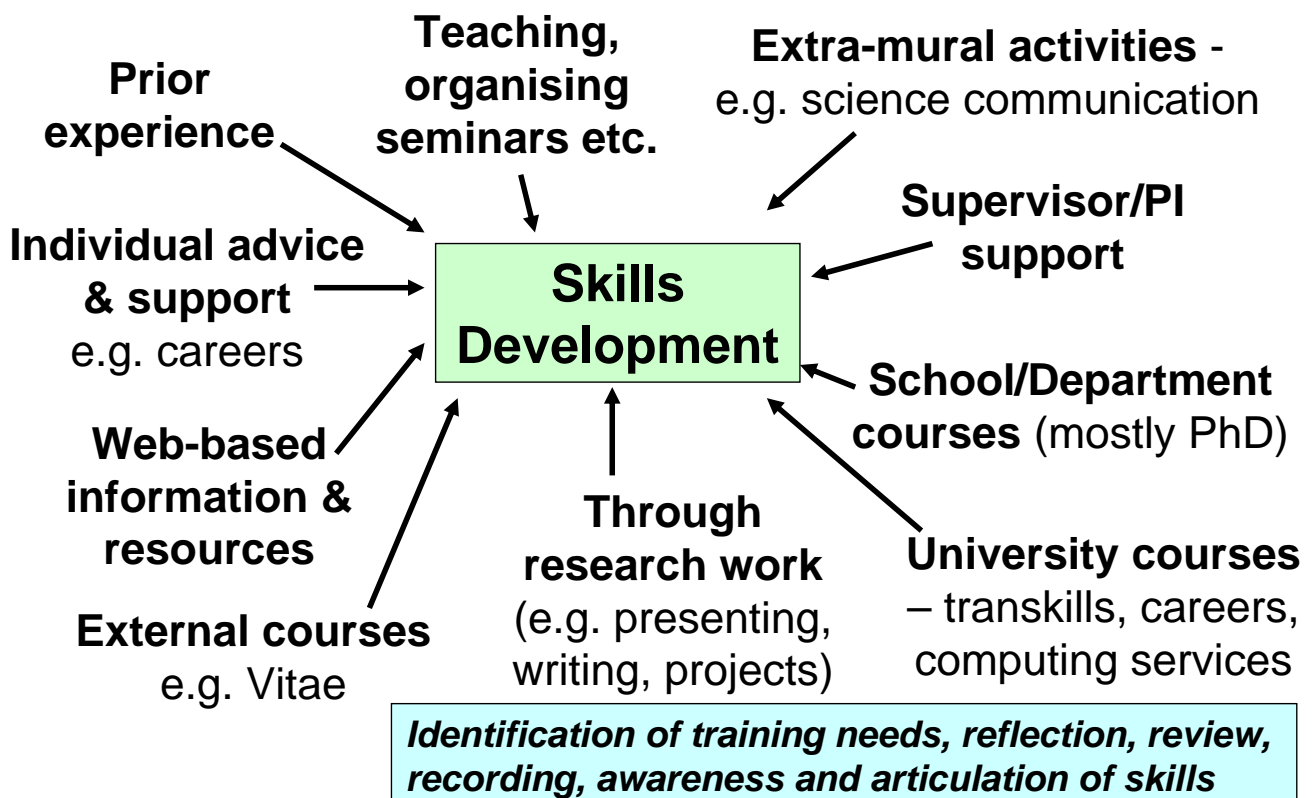
Transferable Skills Training at Edinburgh: Examples of what we offer

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Structures and Approach

- **University Structure**
 - 3 Colleges, 21 Academic Schools (Graduate Schools)
 - Support departments (Institute for Academic Development - transkills, 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)





Embedded: subject specific provision

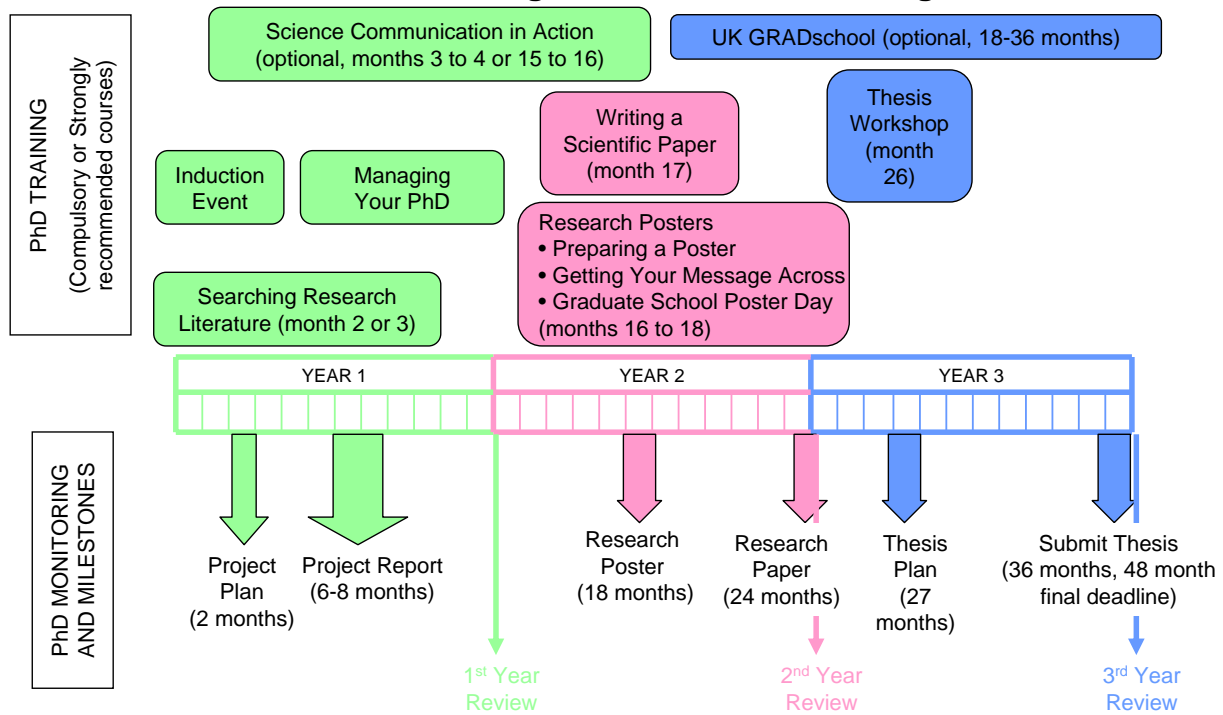
- Research Methods in the Social Sciences
 - Compulsory, assessed, running over two semesters
- Research Methods in Arts, Culture & Environment
 - Compulsory, linked to student-organised conference, first semester
 - Includes sessions tailored to practice-based PhDs
- Animal handling, radiation, health & safety
 - Examples of compulsory workshops in some disciplines (especially laboratory science)
- SUPA Advanced Topics
 - Video conference courses for all Scottish physics PhDs²¹



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

Graduate School of Engineering and Electronics PhD monitoring, milestones and training



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 (3), Entrepreneurship (any), IPR (any), Tutoring & Demonstrating (1)

Institute for Academic Development

University of Edinburgh



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

Open workshops and short courses

- transkills 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



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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



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Business and Enterprise

Training

BET

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

LAUNCH.ed.ac.uk

Edinburgh International COMPASS Programme – find your way...



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



University of Edinburgh
International Office



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-fund²⁹

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

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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

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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

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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

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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



Incorporating the UK GRAD Programme and UK-ERDF

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



Vitae - Support for staff supporting researchers



Incorporating the UK GRAD Programme and UK-ERDF

- ✔ 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

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Getting in touch:
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References

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- Roberts at the University of Edinburgh
www.postgrad.ed.ac.uk/pgskills/wgpublic.htm
- Vitae www.vitae.ac.uk
- What do researchers do? www.vitae.ac.uk/wdrd
- Career stories portal www.vitae.ac.uk/careerstoriesportal
- Researcher development framework (RDF)
www.vitae.ac.uk/rdf
- PRES 2009 www.heacademy.ac.uk/pres
- CROS www.cros.ac.uk / www.vitae.ac.uk/cros