Improving the value of collaborations between institutions and businesses

Internships, placements and work opportunities

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Vitae vision and aims

“to support world-class personal, professional and career development for researchers”

- **Influence effective policy** development and implementation relating to researcher development to build human capital
- **Enhance higher education provision** to train and develop researchers
- **Empower researchers** to make an impact in their careers
- **Evidence the impact** of professional and career development for researchers
Presentation

- Background to internships, placements and work opportunities for researchers in UK
- Whose value?
- Employers views of researchers
- Guidance, frameworks and support for employers, institutions and researchers
- Researcher Development Framework (RDF)
Value of institution-business collaborations
Internships, placements and work experience

UK HE policy drivers
• innovation and optimising employability
• transferable skills and career development for researchers

Researchers

Collaboration

Employers

Universities

‘All full time PhD students should have an opportunity to experience at least one 8 to 12 week internship and should be encouraged to attend a short intensive enterprise skills programme alongside research students from other departments’ review for UK government by Sir Tim Wilson (2012)
Range and extent of UK interactions

A career development perspective of UK researcher-business interactions
(CRAC 2012)

- ~ 1,500 to 2,000 opportunities annually
- Public sector, IT and computing, finance and pharmaceuticals mainly
- ~ 90,000 doctoral researchers and ~ 40,000 research staff in UK

- Collaborative doctoral programmes (~800)
  - CASE awards (Collaborative Awards in Science and Engineering), industrial and engineering doctorates etc

- Work experience placements, internships and secondments funded mainly by research funders (~350)

- Internships and fellowships funded by employers and external organisations (~200)
- Consultancy, employer-hosted projects, Knowledge Transfer Partnerships (~200)
- New initiatives from Research Funders
Work experience by discipline

- Education and Social Science (42%)
- Arts and Humanities (35%)
- Engineering and Technology (32%)
- Biological Sciences (22%)
- Physical Sciences (17%)

✓ work experience with employer funding of degree programme highest in Engineering and Technology (42%)

✓ work experience at some stage including undergraduate highest in Engineering and Technology (74%) and Biological Sciences (71%)

✓ very helpful to doctoral study (58%)

✓ very helpful to career and work choices (60%)

(N= 2399)

(Researcher work experience: Placements/internships outside academia (Vitae, 2012))

‘27% of UK full time doctoral researchers claim to have related postgraduate work experience with strong variation by discipline and study mode’

(Career intentions of doctoral researchers, Vitae 2011)
Changing the focus of knowledge exchange and placements

Universities

- Knowledge exchange has been main driver of interactions, to benefit company or HE, not for benefit of researchers
- Measures of impact and value of researcher placements for researchers and hosts is absent beyond assessment of knowledge exchange activity

Companies

- Few commercial opportunities sponsored entirely by company, most are in IT
- Range of models required to help new employers provide opportunities (low cost, low risk, low commitment)
- Subsidising first engagement for companies can have a significant effect

Researchers

- Lower placement activity for doctoral researchers than undergraduates
- Little evidence of high demand from doctoral researchers

(Researcher work experience: Placements/internships outside academia (Vitae, 2012))
Beneficiaries and expansion

A career development perspective of UK researcher-business interactions (CRAC 2012)

Beneficiaries

- Benefits are more for the external organisation and/or the HEI.
- Limited the range of employers take part
  - Mainly research intensive employers and sectors
- Personal or career development benefit for
  the researcher is a subsidiary issue

Expansion

- Greater alignment of the potential benefits to all
  - the participant, institution and the employer
- Greater understanding by a wider range of employers of the potential value of a researcher on placement or exchange
- Institutional structures and cultures to encourage participation
- Making the case – currently few measures of impact
Researchers and institutions

A career development perspective of UK researcher-business interactions (CRAC 2012)

Researchers

- Little widespread demand from doctoral researchers to undertake external placements or similar interactions
- No evidence for significant over-demand for participation
- Very few research staff have undertaken exchanges or placements outside HE
  - 40% of CROS survey respondents claim that they would like such an experience.

Institutions

- No culture in which these experiences are expected or seen as integral to researcher development.
- Supervisors’ or research leaders’ attitudes, and whether this differs for those who have spent time in employment outside HE?
- PIRLS survey - fewer than half of research leaders are confident in career development, and few consider it very important in developing research staff.
Role of research leaders and supervisors

http://www.vitae.ac.uk/policy-practice/14560/Principal-Investigators-and-Research-Leaders-Survey-PIRLS.html

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What employers need / value

- Clear articulation of benefit / value - “WHY?”
- Some financial subsidy
- Consistency of approach
- Help in selection/recruitment
- Appropriate support
- Diversity of models

Recommendations

- Clearer measures of benefit/impact for employer, HEI and researcher
- Promote those values to drive supply *and* demand
- Framework/s to optimise development benefit of wider range of interactions (*RDF, EFWE*)
Support for researchers to gain value from work experience

“The European Framework for Work Experience (EFWE) aimed to develop a European standard for the assessment and accreditation of employability skills developed through work experience, undertaken by students whilst studying”.

Researchers feedback on EFWE

- Guides on how to initiate and get the most out of work placements
- Framework and structure to enable researcher and employer to manage expectations
- Reflective nature of the competency units
- International perspective

Vitae publications for researchers

- Internships and Placements Guides
  - for employers, researcher and institutions
- Employability lens on the Researcher Development Framework
- The Career Wise Researcher booklet – focus on ‘employability’
- Intercultural awareness modules

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Institution- business collaborations

Value exchanges

Cost
- who pays for what?

Benefit
- what is in it for me?

Time
- how long is ‘best’?

Collaboration

For employers, researchers and supervisors

- Clear measures of benefit/impact for employer, HEI and researcher
- Promote values to drive supply and demand
- Framework/s to optimise development of benefit of interactions
- Consistency of approach and support

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The ‘value’ of professional placements

(Researcher work experience: Placements/internships outside academia

**Researcher benefits**

- Working in commercial environment, team working skills, self confidence, broadening horizons, problem solving, applying research out of academia, demonstrating impact, networking, informing career plans

**Business benefits**

- Innovation, new ideas, developing solutions, getting the job done, new resources, recruiting new talent, increasing visibility

**University benefits**

- Promoting postgraduates, offering learning experiences, showcasing doctoral researcher skills, adding value to researchers, experience, bridging the gap, engaging with industry, and demonstrating impact
The Value of PhDs: the Impact of Doctoral Education in Research Intensive Employers (EPSRC study)

The majority of employers in research intensive organisations actively target doctoral holders. 83% of respondents believed that doctorate holders had improved their position against competitors.

- Generic research competencies rated most highly
  - Problem Solving Skills (75%)
  - Research Skills/Methodologies (63%)
  - Communication (59%)
  - Data Analysis Abilities (56%)

- Direct Impacts most highly valued
  - Technical Expertise (83%)
  - Innovative/creative thinking (75%)
  - Problem solving and trouble shooting (68%)

- Indirect Impacts also very important
  - Team working
  - Networking
  - Absorptive capacity
What do researchers do?
Doctoral graduate impact three years on

- Employment pattern varies with discipline
- Employed in HE (44%)
- 5 ‘other’ common occupational clusters
  - Functional and production managers, and senior officials
  - Health professionals
  - Business, finance, statistical professional roles
  - Engineering professionals
  - ICT professionals

- Use generic skills (> 90%)
- Innovative some or all of time (>90%)
- Positive impact in employment (> 90%)
- beyond (89%)
- Doctorate valuable (> 80%)
- Use research (> 80%)
- Undertake research (40% most of the time)

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### Employers’ expectations of researchers

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<thead>
<tr>
<th></th>
<th>Group 1</th>
<th>Group 2</th>
<th>Group 3</th>
<th>Group 4</th>
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</thead>
<tbody>
<tr>
<td>Data analysis</td>
<td>100%</td>
<td>100%</td>
<td>91%</td>
<td>91%</td>
</tr>
<tr>
<td>Problem Solving</td>
<td>100%</td>
<td>88%</td>
<td>89%</td>
<td>83%</td>
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<tr>
<td>Drive and Motivation</td>
<td>100%</td>
<td>84%</td>
<td>59%</td>
<td>74%</td>
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<tr>
<td>Project Management</td>
<td>83%</td>
<td>36%</td>
<td>70%</td>
<td>39%</td>
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<tr>
<td>Interpersonal Skills</td>
<td>67%</td>
<td>56%</td>
<td>39%</td>
<td>26%</td>
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<tr>
<td>Leadership</td>
<td>67%</td>
<td>28%</td>
<td>24%</td>
<td>17%</td>
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<tr>
<td>Commercial awareness</td>
<td>50%</td>
<td>20%</td>
<td>28%</td>
<td>22%</td>
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<tr>
<td>Overall</td>
<td>81%</td>
<td>59%</td>
<td>57%</td>
<td>50%</td>
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#### Employer categories

- **Group 1**: actively target doctorates
- **Group 2**: strong interest
- **Group 3**: some interest, occasionally recruit
- **Group 4**: no interest

Recruiting researchers, Vitae, 2009, 104 employers
Vitae Researcher Development Framework

House of Lords review of HE STEM, July 2012
‘...we were pleased to hear that the Researcher Development Framework (RDF), developed by Vitae in consultation with employers, has gone some way to improve the employability skills of postgraduates and guide the knowledge, behaviour and attributes of a successful researcher’
Vitae Researcher Development Framework

- Framework of the knowledge, behaviour and attributes of successful researchers
- Enables self-assessment of strengths and areas for further development
- Common language for researchers capabilities
Employability lens - capabilities commonly sought by employers

- Team working
- Leadership
- Collaboration
- Written and oral communication
- Commercial awareness
- Project Management
- Financial management
- Networking
- Data analysis
- Problem solving
- Innovation
- Creativity
- Drive and motivation
- Self management

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“The terminology of ‘competences’ is used throughout the Royal Bank of Scotland framework, and is in line with the Researcher Development Framework. It is easy to map the content of the Researcher Development Framework with the Royal Bank of Scotland competence framework.”

“The Researcher Development Framework is a useful tool and I think would provide a structure for approaching skills development and training.” (Landis+Gyr)
Supporting researcher mobility – ‘cloud’ mobile technology - the RDF Planner
Pan-European continuous professional development framework – RDF feasibility study (European Science Foundation)

‘The adoption of the RDF, adapted as recommended in the report, would also be a great tool for supporting intersectoral mobility.’

Martin Hynes, CEO, European Science Foundation

‘RDF proved to be a solid basis for making researchers reflect on their skills and attributes and on their career aspirations in general.’

‘Provides an important potential to support the professional development of researchers in any national or institutional environment.’

(www.vitae.ac.uk/researchers/1271-569791/New-ESF-funded-feasibility-study-calls-for-a-single-European-Researcher-Development-Framework-.html)

‘Potential applicability of the RDF for researchers across Europe’

‘would support the aims of the European Charter and Code’

(Developing research careers across Europe, EARCD, ESF member organisations, 2012)
In summary

What is the purpose and value of work experience?
Provide and enhance

- Employers’ opportunities to understand the value of researchers
- Researchers’ understanding of the value of their capabilities to work successfully in all sectors
- Opportunities for researchers and employers to come closer in understanding and experience for mutual long term benefit

Who pays, who benefits?

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