

The Rugby Team Impact Framework: one year on

September 2009

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'Rugby Team Impact Framework: one year on' has been written on behalf of the Rugby Team by Dr Tony Bromley, Graduate Training and Support Centre, Staff and Departmental Development Unit, University of Leeds; Vitae Yorkshire and North East Hub co-ordinator; Rugby Team member

This report provides an overview of the work of many across the sector. Our specific thanks go to the following people:

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The Rugby Team is a sector-led working group, drawn from a cross-section of HEIs and other relevant stakeholders, with a mission to 'propose meaningful and workable ways of evaluating the effectiveness of skills development in early career researchers'.

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Executive summary

Key impacts

There is emerging evidence that researcher training and development activity:

- improves research outputs, grant writing success, fellowship success and performance in research
- enhances the postgraduate researcher and supervisor experience
- enhances employability
- enhances and increases the public understanding and outreach activity of researchers.

Overview

The Rugby Team Impact Framework (RTIF)¹ is '*an evaluation model for training and development activity specifically tailored to the context of training and development of researchers in higher education (HE)*'. The RTIF was presented in draft form to the Roberts Policy Forum in January 2008² and in a finalised format, following sector consultation, at the Vitae national conference in September 2008³.

This report provides an overview of known evaluation activity relating to researcher training and development, mapped against the RTIF. The work reviewed was carried out predominantly during the 2008/09 academic year, together with work in progress or planned⁴. Also included is an overview of the support provided to the sector aimed at growing evaluation activity.

The RTIF has proved invaluable as both a methodology for evaluation and as a national framework for building the evidence base by mapping the impact of evaluations carried out, necessarily, using different methods. There is clearly a significant breadth and depth of evaluation now taking place in higher education institutions (HEI), providing evidence across all levels of the RTIF. The results of 27 different evaluations carried out by 21 HEIs or organisations are presented.

In terms of supporting this evaluation activity, the JISCMail 'Evaluating Impact' network group⁵ now has over 100 members. There have been ten conference/workshop events nationally, targeted at or including a significant contribution in the area of evaluating impact in the 09/10 academic year alone. The same period has also seen the publication of a new journal⁶ with an evaluation section and a guide to evaluating researcher training and development activity⁷.

It is clear that there is already an important body of evidence of impact reflected in the depth and range of this report. There is evidence of impacts in areas of key interest to a range of stakeholders, including researchers, higher education institutions and funding bodies.

The level of activity so far demonstrates strong and growing engagement across the sector, and that the sector is taking clear and significant responsibility for evaluating the impact of their provision and interventions. There is no doubt the examples presented in this report are only a proportion of the activity taking place across the sector.

There is still much work to be done in both identifying and continuing to develop the evidence base of the impact of researcher training and development activity. The challenge is to build upon the work done so far, continually enhancing the body of evaluation evidence to ensure claims in respect of impact can be made with increasing robustness.

¹ Bromley T, Metcalfe J and Park C (2008) 'The Rugby Team Impact Framework' published by Careers Research Advisory Centre (CRAC) Limited, ISBN-13: 978-1-906774-00-4 www.vitae.ac.uk/CMS/files/1.Rugby%20Impact%20Framework_33.pdf

² www.vitae.ac.uk/policy-practice/13945-2787/UK-GRAD-National-Policy-Forum.html

³ www.vitae.ac.uk/policy-practice/13945-2774/Vitae-Researcher-Development-Conference.html

⁴ The information from the January 09 Vitae Roberts Policy Forum is incorporated in this report, see www.vitae.ac.uk/rugbyteam for the Policy Forum report.

⁵ www.jiscmail.ac.uk/evaluating-impact. To join email a request to t.p.bromley@adm.leeds.ac.uk

⁶ Available at www.researcherdevelopmentjournal.org/index

⁷ Available at www.srhe.ac.uk/publications.gpi.asp

The Rugby Team Impact Framework: one year on

1. Introduction

This report⁸ is an update on evaluation activity in relation to researcher training and development, following the publication of the Rugby Team Impact Framework (RTIF)¹ at the Vitae conference of September 2008.

Evaluation is always a natural part of the cycle for any training and development programme, however, it is clear that activity in evaluation is growing and, in many cases evaluation is being done to a greater depth than has previously occurred. This report also provides an important mechanism for reporting and sharing practice in evaluation relating to researcher training and development activities to a depth and breadth that hasn't been available previously.

The report provides an overview of evaluation activity in the sector, mapped against the RTIF for the academic year 2008/09 and, as a first report, also includes early relevant work. Evaluations currently ongoing or planned for the future are reported and an overview of the support (eg evaluation events/publications) provided to the sector in increasing evaluation activity.

2. Background

The drivers for growth in evaluation activity in the sector are set out in the RTIF⁹ as:

'The imperative to identify coherent and transparent ways to evaluate has arisen from a number of drivers, including the need to:

- *demonstrate the appropriateness of the emphasis on skills development of researchers*
- *provide feedback to funding bodies, such as RCUK and the UK Funding Councils, and to government, who need to evaluate the effectiveness and impact of their investment and on the economy*
- *inform the enhancement of the quality of the experience for postgraduate researchers (PGRs) and research staff (RS), both within individual HEIs and across the sector in line with initiatives such as the QAA Code of Practice for Postgraduate Research Programmes and the 'Concordat to Support the Career Development of Researchers'*
- *assess the impact of recent initiatives, particularly the Roberts Funding, on the employability (and perceived employability) of PGR and RS'.*

The purpose of the RTIF is to:

- foster, support and potentially guide existing and new ways of effective evaluation
- encourage further engagement in the evaluation agenda by HEIs
- aid the HE sector in building a more comprehensive evidence base.

The Rugby Team was formed following the January 2005 Roberts Policy Forum held in Rugby. A key task¹⁰ of the group was, *'to contribute to a strategic debate with national stakeholders on how to evaluate the effectiveness of skills development amongst postgraduate researchers (PGR) and research staff.'*

⁸ This report includes the information from the earlier draft report presented at the Vitae Roberts Policy Forum, January 2009 available at www.vitae.ac.uk/rugbyteam

⁹ Bromley T, Metcalfe J and Park C (2008) 'The Rugby Team Impact Framework' published by Careers Research Advisory Centre (CRAC) Limited, ISBN-13: 978-1-906774-00-4 www.vitae.ac.uk/CMS/files/1.Rugby%20Impact%20Framework_33.pdf p3

¹⁰ 'Evaluation of Skills Development of Early Career Researchers – a strategy paper from the Rugby Team' www.vitae.ac.uk/cms/files/Rugby-Team-annual-report-January-2006.pdf

The outcome of the Rugby Team development work on evaluation was the RTIF. This initially was presented to the sector at the Vitae Roberts Policy Forum January 2008 and then as the finalised version¹ to the Vitae National Conference September 2008. Reference to the Impact Framework was made in the Roberts reporting letter from RCUK to HEIs in August 2008. HEIs were encouraged to add examples of their evaluation practice to the Vitae Database of Practice¹¹.

At the core of the RTIF evaluation model are a set of impact levels that form a logic progression¹².

Impact Level 0: Foundations

This level relates to investment that leads to development of the infrastructure for training and development activity, such as the employment of additional staff, a larger programme of training workshops and other activities being offered, or training facilities being refurbished. Metrics such as the number of training opportunities offered, the number of researchers participating, or a more specific example such as the number of researcher interactions with industry as the result of a particular training activity, are examples of level 0 impact measures, ie this level primarily measures inputs and throughputs. From a different perspective, that of a researcher as a participant in training and development activity, level 0 would be 'baseline' assessment of skills and training needs.

Impact Level 1: Reaction

This level indicates the reaction of participants to training and development activities. For example, at the end of a workshop participants may be asked what were their views of the experience? What was their view of the training programme as a whole?

Impact Level 2: Learning

This level reflects *'the extent to which participants change attitudes, improve knowledge, and/or increase skill as a result of attending the programme'*¹³. For example, does a researcher have a better understanding of how to work effectively within a team as a result of participating in a development opportunity?

Impact Level 3: Behaviour

This level reflects *'the extent to which change in behaviour has occurred because the participant attended the training programme'*¹³. Is the researcher now managing their project and time better as a result of the development activity? How has the researcher applied what they have learnt?

Impact Level 4: Outcomes

This level measures the final results of the training and development activity. Have changes in behaviour resulted in different outcomes? Has the quality of research improved? Is there a more highly skilled researcher workforce?

¹¹ Vitae Database of Practice www.vitae.ac.uk/dop

¹² The basis of the logic progression is the work of Kirkpatrick. The critiques of Kirkpatrick, for example Kearns, are also reflected. Kirkpatrick D L., and Kirkpatrick J D, (2006) 'Evaluating Training Programmes', Third Edition, Berrett-Koehler Publishers Inc ISBN-10: 1-57675-384-4; ISBN-13: 978-1-57675-384-4

Kearns P and Miller T (1997) 'Measuring the Impact of Training and Development on the Bottom Line' Pitman Publishing ISBN 0 273 63187 X

¹³ Kirkpatrick D L and Kirkpatrick J D (2006) 'Evaluating Training Programmes', Third Edition Berrett-Koehler Publishers Inc p22

3. Implementation plans and support to the sector

The implementation plans for the RTIF have focused upon two main aims: firstly, activity to encourage growth in evaluation in the sector and secondly putting in place communication mechanisms to share practice and experience. Table 1 summarises the steps in implementation during 2008 up to the Vitae conference (September 08). Table 2 summarises the events and activity of the academic year 2008/9 and future plans. Table 3 summarises the communication mechanisms now in place.

There has been significant and widespread growth in evaluation interest and activity with many events being scheduled on request from the sector. This increased activity is illustrated by the growth in the JISCmail 'Evaluating Impact' network¹⁴ (See table 3) that now has over 100 members, and the growth in evaluation activity in the sector from nine entries in respect of completed projects in the report¹⁵ to the Roberts Policy Forum in January 2009, compared to the 27 entries included in this report.

In addition, the consultation exercise with participants following the Vitae Policy Forum of January 2009, covering a number of policy related issues, including the importance of evaluation and the value of the RTIF. The consultation report¹⁶ notes that:

'There was acknowledgement of the importance of building an evidence base both for demonstrating impact and enhancing provision. The Rugby Team Impact Framework (RTIF) was seen as a useful tool for both these activities, and is already being used by some institutions.'

The report also provides the following evidence of the value of the RTIF from one respondent:

'In order to build up a better picture of the impact of Roberts across the sector as a whole it would be helpful to adopt some common approaches to how institutional practice in evaluation is framed and described. The advantage of the Rugby Team Impact Framework is that it does not specify or restrict what is evaluated and the methods used, instead it provides a framework within which different approaches and activities can be compared and connected.'

There are potentially many components to the reasons for the growth in evaluation. However, it is clear that the RTIF and associated implementation activity have had significant impact on the evaluation activity of the sector relating to training and development.

¹⁴ www.jiscmail.ac.uk/evaluating-impact To join email a request to t.p.bromley@adm.leeds.ac.uk

¹⁵ www.vitae.ac.uk/rugbyteam

¹⁶ www.vitae.ac.uk/policyforum

The Rugby Team Impact Framework: one year on

Date	Activity
Jan 08	Presentation of the draft Impact Framework, Vitae Roberts Policy Forum
Jan - Feb 08	Consultation with Vitae Roberts Policy Forum participants on the structure and content of the RTIF
Aug 08	Using the Impact Framework, RCUK Roberts reporting requirements letter. HEIs also encouraged to evaluate their programmes and to add examples of their evaluation practice to the Vitae Database of practice
Sep 08	Impact Framework final publication, Vitae researcher development conference
Sep 08	'Measuring the impact of skills development' and 'Reviewing and evaluating skills training' workshops, Vitae researcher development conference
Sep 08	RTIF published on the Rugby Team website

Table 1: Implementation of the RTIF up to the Vitae conference, September 2008

Date	Activity
Oct 08	'Focus on evaluation', Vitae South West and Wales Hub
Nov 08	'Researcher training: evaluation and return on investment workshop' (two sessions), Vitae Yorkshire and North East Hub
Dec 08	'Building the evidence base - evaluating researcher training and development activity' session, Good practice workshop, Vitae North West Hub
Jan 09	Keynote presentation 'Progress in implementing the Rugby Team Impact Framework' and workshop session 'Using the Rugby Team Impact Framework in practice', Vitae Roberts Policy Forum
Jan 09	'Survey on the Impact of the Roberts' Fund at 1994 Group institutions', 1994 Group report, launched at the 7th Annual NSA Postgraduate Conference
Apr 09	'Evaluating the Impact of Newer Researcher Training & Development: Which Direction Forward?' joint Vitae/SRHE event
May 09	'Evidencing the impact of researcher training', Good practice workshop, Vitae North West Hub
July 09	'Evaluation and return on investment masterclass', Vitae South East Hub
July 09	'Impact and evaluation workshop', Vitae East of England Hub
July 09	'Measuring the Impact of the Roberts' agenda and funding in Scotland', Joint event by Universities Scotland Research Training Sub-committee, University of Dundee and Vitae Scotland & Northern Ireland Hub
Sep 09	'Research and evaluation relating to the impact of researcher development and of researcher careers' major theme of Vitae researcher development conference
Sep 09	'Evaluation briefing', Vitae South East Hub Steering Group meeting
Nov 09	'Evaluation and feedback' – Vitae masterclass workshop

Table 2: Summary of evaluation events and activity during 08/09, including planned 2009 activity

Timing	Activity
Annual	Evaluation updates at Vitae Roberts Policy Forum (January) and Vitae researcher development conference (September)
Ongoing	Updates in Vitae Hub newsletters (quarterly publications)
Ongoing	Updates to Rugby Team meetings posted at www.vitae.ac.uk/rugbyteam
Ongoing	Contributions from the sector of examples of practice to the evaluation section of the Vitae Database of practice
Ongoing	JISCMail 'Evaluating Impact' email network (currently has 100 members). The aim is to provide a mechanism for sharing of information, ideas and practice around the sector
Sep 2010	A review of sector evaluation practice primarily based on the evaluation section of the Vitae Database of practice will be carried out during 2010 with a report published at the Vitae conference
Publication	'Evaluating Training And Development Programmes For Postgraduate And Newer Researchers', SRHE publication as part of their Issues in Postgraduate Education Series ¹⁷
Publication/ Ongoing	'International Journal for Researcher Development', first edition ¹⁸

Table 3: Summary of communication mechanisms

4. Evaluation activity

This section provides an overview of the work of many colleagues across the higher education sector in evaluating researcher training and development. It should be noted that this report does not claim to be a comprehensive review of evaluation activity, but highlights examples of evaluation that colleagues have agreed to share. Without doubt the examples presented in this report are only a proportion of the activity taking place across the sector. Both completed and planned projects are included and activity described covers the full range of the RTIF impact levels from 0 - 4.

It is important to realise that all contributions to building the evidence are entirely valid, be they large or small scale. It is the communication and collation of evidence across the sector that is key. For example, an indication of impact found by one practitioner from their standard evaluation forms may not be perceived as a particularly powerful contribution to the evidence base. However, if the information is shared and practitioners in many institutions have similar findings, the findings can become increasingly important.

A summary of reported activity is given below. Further details in the form of case studies for a sample of the evaluation activities discussed here are provided in Appendix I.

4.1 Completed evaluation

Table 4 is a summary of evaluation projects from institutions across the sector that have indicated evidence of impacts related to the RTIF impact levels.

¹⁷ Available at www.srhe.ac.uk/publications.gpi.asp

¹⁸ Available at www.researcherdevelopmentjournal.org/index

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Project	Rugby Team Impact Framework impacts				
	Level 0	Level 1	Level 2	Level 3	Level 4
1 University of Leeds Foundation Level 0 review	✓				
2 BHR Associates review – independent review at a Russell Group university	✓				
3 University of Sheffield - Baseline Study: Research Staff Training Programme, School of Medicine	✓				
4 Imperial College - Skills Perception Inventory (SkiPI)	✓	✓	✓		
5 University of Manchester - Development Needs Analysis - baseline study	✓				
6 Cardiff University – PRES findings	✓	✓			
7 Durham University – PRES findings	✓	✓			
8 University of Leeds – Research Environment	✓				
9 University of Strathclyde – Enterprise skills	✓				
10 1994 Group - Survey on the Impact of the Roberts' Fund at 1994 Group Institutions	✓				✓
11 RCUK Roberts reporting summary 2008	✓				
12 University of Cambridge – Research Staff Careers Programme	✓			✓	
13 Bangor University – PRES findings		✓	✓		
14 Heriot-Watt University - Effective researcher		✓	✓	✓	
15 University of Glasgow - Effective researcher		✓	✓	✓	
16 Leicester University - One Step Beyond GRADschool		✓	✓	✓	✓
17 University of Leeds - Speed Reading	✓	✓	✓	✓	✓
18 University of Nottingham - Placements Programme	✓	✓	✓	✓	✓
19 University of Leeds - Employability					✓
20 University of Southampton – Outreach		✓	✓	✓	✓
21 Institute of Cancer Research - Science Communication	✓	✓	✓	✓	✓
22 Durham University - Enterprise	✓	✓	✓	✓	
23 University of Essex - Success Stories	✓	✓	✓	✓	✓
24 University of East Anglia - Dynamics of Team Learning		✓	✓		
25 University of Leeds - Grant writing	✓	✓	✓	✓	✓
26 University of Sheffield – Research Staff Programme evaluation	✓	✓	✓	✓	✓
27 Newcastle University – Postgraduate researcher development programme	✓	✓	✓	✓	✓

Table 4: Mapping of completed evaluation projects against the Rugby Team Impact Framework

✓ signifies that a project has identified evidence of impact at the indicated evaluation level. Projects are listed in the order they appear in the report text and are highlighted in bold in the text.

Evidence of level 0 impacts

There have been a number of studies that align with impact level 0 (foundations). At the programme level the **University of Leeds (1)**¹⁹ has reviewed provision for postgraduate researchers using the 'Foundation Elements' presented in the RTIF as a basis for investigation. Findings of the review have been developed into a strategic development plan.

Also at the programme level a review of Continuing Professional Development (CPD) for research staff at a Russell Group university has been carried out using a methodology of survey and focus groups (**BHR Associates (2)**)²⁰. Focus groups provided both qualitative and quantitative information. The review provided valuable information for improving the programme, but also highlighted interesting 'baseline' foundation level information about the skills needs of the research staff group. Participants had little work experience outside of academic roles since PhD completion and had ambitions for academic careers. Average ratings for current skills levels fell short of the levels thought to be required for intended job roles, including such aspects as project/time management, organising skills and communication. Additional skills the group stated as relevant to their objectives included adaptability, networking/collaboration and negotiating.

There were similar findings in a study carried out in the Medical School at **University of Sheffield (3)**²¹. Before the development of a new training and career development programme for their researcher staff, a baseline audit study along with a needs analysis assessment was carried out across the departments. It was determined that; over 50% of the researchers had carried out their PhD at the University of Sheffield with little or no experience of employment elsewhere. Many of their perceived skills levels mapped against the joint skills statement were below average, compared with the expectations for anyone completing a PhD. Over 70% wanted to continue with an academic research career and many felt they were lacking specific support for their training and career development.

There have also been studies at the foundation level 0 and higher levels relating to the needs analysis of participants in training and development workshops and programmes^{22,23}. **Imperial College (4)** have recently reported on the use of their Skills Perception Inventory (SkiPI). The inventory was used to look at the effects of a three-day residential programme on postgraduate researchers in the early stages of their research. Skills areas addressed include; group work; communication skills; planning and project management; personal awareness. Following the workshop, statistically significant increases in participants perceived skills levels in each area of the inventory were demonstrated, as was a more positive attitude to skills development courses overall (levels 1 and 2).

The **University of Manchester (5)**²³ have reported on the use of a Development Needs Analysis tool to provide a baseline needs analysis of postgraduate researchers starting a research degree programme. Overall, the most significant needs were identified in areas of presentation, public understanding of research, commercialisation of research and research skills. The technique can also be used to demonstrate progression in skills development beyond level 0.

¹⁹ See the entry on the Vitae Database of practice at www.vitae.ac.uk/dop/554.html

²⁰ BHR Associates, BHRAssociates@netscape.net

²¹ Correspondence with Lucy Lee, School of Medicine and Biomedical Sciences, University of Sheffield

²² Alpay, E and Walsh E. (2008) 'A skills perception inventory for evaluating postgraduate transferable skills development' *Assessment & Evaluation in Higher Education* 33 (6), pp581–598

²³ Bromley, A. P., Boran, J. R., and Myddelton, W. A. (2007) 'Investigating the baseline skills of research students using a competency based self-assessment method' *Active Learning in Higher Education*, 8 (2) pp117-137

Cardiff University (6)²⁴ have found evidence of the impact of carrying out needs analysis from their 2008 Postgraduate Research Experience Survey (PRES)²⁵. Postgraduate researchers, *'gave relatively higher scores to supervision, skills development, infrastructure, intellectual climate and goals/standards if they had reviewed their development needs and assessed how to progress them in relation to research skills and transferable skills as well as other development needs, if the review of their development needs had been agreed with their supervisors, and if actions to meet their development needs had been incorporated into their research plan'*. There was also a significant positive relationship between these measures of participation in needs assessment and their overall experience of the research programme.

Comparison between 06/07 and 07/08 postgraduate researcher annual reviews of the whole PGR population at **Durham University (7)**²⁶ (approximately 1,500 PGRs per year with a near 100% return rate) showed increasing participation in needs analysis and increasing satisfaction in terms of research training needs being met and the training programme as a whole.

Garforth and Kerr²⁷, **University of Leeds (8)**, have published a study considering more broadly the researcher environment, which in terms of evaluation provides important and broader information about the context in which researcher development has to operate. For example the emergence of a 'two-tier' contractual system in universities and the subsequent impact. The work also explores the nature of research groups or practice in different subject areas and by gender.

The **University of Strathclyde (9)**²⁸ have carried out a research study, 'What are they doing out there? Research graduate skills for innovation in small high technology companies'. The study confirms the employer view for the need to develop innovation skills in researchers and thus makes an important contribution to defining the skills development needs identified by an important employment sector (level 0). Potential researcher skills frameworks for innovation were developed through grounded theory analysis of in-depth interviews with owner managers, research graduate employees, postgraduate researchers and representatives from government agencies. The need was highlighted for behaviours including intrapreneurship, cultural transition, switching between multiple mental models for technology and business, being multifunctional and multidisciplinary.

The **1994 Group (10)** have completed a comprehensive research report²⁹, on the impact of Roberts funding in 1994 Group institutions. The key findings map most closely against level 0 and level 4 in the RTIF (Table 5).

²⁴ Correspondence with Terri Delahunty, Head of the Graduate Centre, Cardiff University

²⁵ www.heacademy.ac.uk/ourwork/research/surveys/pres

²⁶ Correspondence with Lowry McComb, Director of Postgraduate Training, Durham University

²⁷ Garforth, L. and Kerr, A., (2009) 'Constructing Careers, creating communities: findings of the UK Knowing research and knowledge, institutions and gender.' www.knowing.soc.cas.cz/static/article/data205/files/constructing_careers__creating_communities.pdf

²⁸ Correspondence with Alison Mitchell, University of Strathclyde

²⁹ Neiland, R, Reddy, H, and Winn, P, (2009) 'Survey on the Impact of the Roberts' Fund at 1994 Group Institutions' www.1994group.ac.uk/documents/public/Research%20Policy/090115_RobertsFundReport.pdf

Impact	Rugby Team Impact Framework Levels
In 1994 Group institutions, Roberts funding has:	
increased financial resources available for skills training of all postgraduate researchers and postdoctoral researchers	level 0
promoted more effective resource management and planning	level 0
improved coordination of training provision	level 0
widened scope and extent of training programmes	level 0
motivated engagement of researchers with skills development	level 0
enhanced support for supervisors and principal investigators	level 0
assisted provision of researchers' induction	level 0
improved personal development planning and record keeping practices	level 0
encouraged researchers' feedback and representation	level 0
facilitated better inter- and intra-university collaborations	level 4
stimulated researcher-led innovations	level 4
extended networking and mentoring within the research community	level 4
raised awareness of and skills in knowledge transfer	level 4
broadened employer engagement and researcher-specific careers advice	level 4

Table 5: Summary of institutional 'Impact Points' identified in the 1994 Group Roberts' report²⁹

The **2008 Roberts reporting summary from RCUK (11)**³⁰ provides valuable information at level 0 of the impact of Roberts funding investment and the corresponding impact in terms of staff employed through Roberts funding nationally. The collated figures for the 64 institutional reports that included staffing levels indicated that in 2007/08 a total of 533 were employed nationally: 350 to support postgraduate researchers and 183 to support research staff. As less than half of the 134 reports included staffing figures, it is likely that actual figures will be higher.

The **University of Cambridge (12)**³¹ are evaluating their research staff careers programme. At level 1 impacts initial notable results include an increase from 9% to 21% in terms of research staff seeking career development advice from a careers advisor between the 2006 and 2009 CROS surveys. Specialist careers support for research staff started from 2007. At level 3, in an internal School of Physical Sciences research staff survey (Nov 2008) over 50% of respondents agreed or strongly agreed with the statement, '*I have taken action for my career as a result of engaging with the [research staff] careers programme*'.

Evidence of level 1 impacts and above

Moving on to impact levels 1 and 2, **Bangor University (13)**³² results for PRES 2008 has indicated an improvement in the understanding of thesis examination amongst postgraduate researchers in respect of the 2007 findings (3% above the sector compared to 7% below in 2007). It is posited that this is connected to the impact of skills training in this specific area.

³⁰ www.vitae.ac.uk/CMS/files/upload/policy_forum_summary_of_2008_robert_%20reporting_jan2009.pdf

³¹ Correspondence with Liz Simmonds, University of Cambridge Careers Service

³² Correspondence with Penny Dowdney, Academic Development Unit, Bangor University

Heriot-Watt University (14)³³ and the University of Glasgow have both independently evaluated their 'Effective researcher' programmes. At Heriot Watt (further details Appendix 1, case study 1) evaluation was conducted using the RTIF methodology and data was collected using multiple methods; online questionnaire, phone interviews, SkiPI, end of course feedback forms. Impacts identified included:

- level 1 - 90% would recommend attendance at the course to other postgraduate researchers
- level 2 - SkiPI results indicated increases in participants' perceived levels of skill in assertiveness, leadership, problem solving, project planning and communication
- level 3 - in an online survey 70% of respondents reported the course helped them to perform better in research.

The **University of Glasgow (15)**³⁴ held 'Effective researcher' courses on five occasions between March 2007 and June 2008 with a total of over 130 attendees. Feedback immediately after the workshops was all extremely positive. All participants were invited to a follow up 'evaluation' event in January 2009. 11 attended the follow up and four provided information through email (12% of the population). Impacts identified included:

- level 1 – *'useful to see the differences in presentations in the UK and also get practice in speaking English'*
- level 2 – *'learnt to present to other subject areas and minimise use of jargon' and 'helped me not take things so personally when working with my supervisor'*
- level 3 – *'I'm using mind maps, MS Project, Gantt Charts to Plan PhD.' 'Really enlightening to consider how I work with my supervisors and I have a better relationship with them as a result of this.' 'More proactive in own work and now more confident in the way I work, supervisor has noticed this and is pleased I now take ownership for PhD rather than awaiting direction.'*

Leicester University (16)³⁵ have carried out an evaluation of a GRADschool, which has indicated impact on participants at levels 2 to 4. Seven months following a GRADschool they held a one-day follow up event 'One Step Beyond GRADschool'. A significant part of the programme included guided active reflection by a facilitator. Using facilitators in this way provided the opportunity for more detailed and qualified feedback than would be possible using a standard feedback form approach of providing a questionnaire for a participant to fill in, in their own time away from the workshop (further details Appendix 1, case study 2). Some interesting level 3 behaviours highlighted included focus on finishing their PhD, achieving a better work-life balance, and changed and improved relationships with the supervisor. At level 4 outcomes, there was direct attribution of the GRADschool to gaining employment.

³³ Correspondence with Elena Golovushkina and Rob Daley Educational Development Unit, Heriot-Watt University

³⁴ Correspondence with Elizabeth Adams, Research and Enterprise VOs Team, University of Glasgow

³⁵ Elizabeth Newall, Postgraduate Events Manager, University of Leicester, Vitae Database of Practice entry www.vitae.ac.uk/policy-practice/1392/Resources.html

Evidence of impacts at all levels

The **University of Leeds (17)**³⁶ are looking at applying the RTIF to the evaluation of specific workshop activities, in this example, 'Speed Reading' workshops. The study considers three workshops each with around 20 participants. A mixed methods approach has been used, including a focus group prior to the workshops, speed reading 'tests' during the session and plans for email and focus group follow-up afterwards. The initial work has demonstrated learning (level 2) in the workshop session, with speed reading test scores of participants increasing. A sample of participants have agreed to have their reading speed tested several months after the workshop. This work is ongoing.

The **University of Nottingham (18)**³⁷ are evaluating their Arts Graduate Centre placements programme. Placements include internships within the University, experiential placements in the creative industries and other sectors, and consultancy placements. A mixed methods evaluation approach has been used as described in Table 6. Key impacts include employment being secured as a directly attributable outcome of the placement programme.

Impact level	Mechanism	Typical outcomes
Level 0	One-to-one meeting with placement participant prior to placement working through a JSS ³⁸ evaluation questionnaire.	Record of starting point.
Level 1	Reflective journal.	Recording mechanism. Introduced to idea/importance of reflection. Learnt to focus on development of particular skills.
Level 2	One-to-one or small group meeting with centre manager for pre-placement guided skills analysis.	Introduced to context of professional development. Learnt how to reflect. Realised able to direct career/skills development. Increased confidence to make life decisions.
Level 3	One-to-one or small group meeting with centre manager for interim and exit guided skills analysis.	Improved clarity of reflection on skills development. Made/re-made goals and acted on them. Made decisions and acted on them. Looked at different career options. Began to develop life/career plan. More focused. Increased confidence. Plan to apply new skills to PG study. Ruled in/out specific career paths. Gained sense of direction.
Level 4	Six-month follow-up.	Applied for job with more confidence/better skills awareness/greater ability to write applications. Got a job. Continued to focus on other career development opportunities.

Table 6: University of Nottingham mixed methods approach to evaluating their Arts Graduate Centre placement programme

³⁶ Correspondence with Tony Bromley and Katharine Goda, University of Leeds

³⁷ Correspondence with Rebekah Smith McGloin and Sarah Kerr Arts Graduate School, University of Nottingham

³⁸ Research Councils Joint Skills Statement www.vitae.ac.uk/jss

The **University of Leeds (19)** have begun to look at employability case studies that consider the impact of researcher training and development on employability. This is primarily a study considering level 4 outcomes of researcher training and development activity. Leeds doctoral graduate alumni who studied for their research degree during the period of increasing Roberts funded training and development provision and who are now in employment have been contacted. The intention is for the study to grow and collate increasing numbers of case studies. Quotes gathered from the first few case study interviews include:

'[...] I did the presenting your research to the public poster competition, which was the [Vitae] Yorkshire and North East regional Hub [...] and that led on to lots of other things...and then eventually, yeah, I can see that that was almost a direct route to my job'

'The soft skills are important, especially when you come for interview [...] you need things to talk about, and the PhD doesn't provide that, whereas things like WRISS³⁹ did.'

The **University of Southampton (20)**⁴⁰ Faculty of Science, Engineering and Mathematics (FSEM) have evaluated their 'Outreach and Public Engagement Skills Training' (further details Appendix 1, case study 3). Postgraduate researcher and research staff participants attend a set of workshops in a one-day programme before making short presentations to secondary school pupils. When participants present to schools the process is managed by school pupils and the pupils provide feedback to participants. Prior to the presentations University staff work with the schools to establish an evaluation protocol. The evaluation of the programme in 2008 has indicated impact on participants at a number of levels in relation to the RTIF:

- Level 1 reaction, participants expressed positive views towards the programme; *'Presenting to the kids and getting firsthand, relevant feedback. Great for improvement'*
- Level 2, expressed agreement with evaluation statements around increased confidence and learning of new skills
- The programme is now in its fourth iteration and level 4 outcomes include a substantial numbers of participants applying for FSEM funding for further outreach work and developing projects in the wider university

The **Institute of Cancer Research (ICR) (21)**⁴¹ have evaluated their science communication course (further details Appendix 1, case study 4). The course runs over two days and consists of tutor presentations, group work, a mock press conference and several skills practice sessions during which participants present their research to a lay audience. Key impacts have been identified as follows:

- level 1 – training was uniformly well received
- level 2 – participant feedback identified perceived skill level increases (evidenced by presentations filmed at the start and end of the course), a more positive approach to external presentations and increased confidence
- level 3 – participants are more likely to volunteer for outreach activity than those who have not attended the course, more likely to submit articles to internal journals and in a survey supervisors reported positive feedback in terms of improved presentation skills
- level 4 – an increase in outreach and fund raising activity and more volunteers on waiting lists.

³⁹ White Rose Interpersonal Skills School (WRISS), a local residential GRADschool held jointly between the Universities of Leeds, Sheffield and York

⁴⁰ Correspondence with Steve Dorney, Outreach Co-ordinator & Science Communicator, Institute of Sound & Vibration Research University of Southampton

⁴¹ Correspondence with Neil Walford, Institute of Cancer Research

Durham University (22)⁴² have evaluated their enterprise activity using an external consultant with the evaluation based on the RTIF. A number of different activities were evaluated including a residential enterprise school and a regional enterprise competition. A range of methods were used including feedback forms, focus groups and semi-structured interviews. General findings included ‘...overall the enterprise activities are valued and rated highly by those who participated. ...[postgraduate researchers] indicated that new skills were learnt or existing ones brought to the fore and they recognised that such skills are prized by employers, especially in the current difficult job market where competition for places is very high.’ The development and recognition of the importance of skills to employers contributes to enhancing the employability of researchers.

The **University of Essex (23)** have begun to collate ‘Success Stories’⁴³. These case studies provide impact indicators from the perspective of a workshop participant in a progression across the levels of the RTIF. Two examples of ‘Success Stories’ are given in Appendix 1, case study 5, covering personal development in presentations and writing an academic article.

The **University of East Anglia (24)**⁴⁴ ran a project considering ‘The Dynamics of Team Learning in Postgraduate Generic Skills Training’. The study used a mixed-methods approach and gathered data from around 300 first year postgraduate researchers who had taken part in team learning activities. Key conclusions in respect of the impact of team working activity included:

- activity was supportive to international postgraduate researchers who have English as a second or other language
- working as a team is, itself, felt as facilitative and supportive for postgraduate researchers in general
- engaging in teamwork seems to develop a range of transferable skills, sometimes over and above those targeted by the pre-defined task aims and outcomes
- the opportunity to interact with researchers across disciplines was valued
- over seventy percent of postgraduate researchers reported an improvement in four or more skill areas.

The **University of Leeds (25)**⁴⁵ have been evaluating their provision in support of grant writing, tracking the final outcome of grant applications and thus providing interesting results of level 4 outcomes.

The University of Leeds provides a range of provision for researchers and academic staff in the area of research funding:

- one day core programmes for PGRs and research staff, which provide an overview of the process of applying for grant funding
- bespoke half/full day grant writing sessions for faculties
- half-day sessions on fellowships
- 3-12 month long programmes to support research staff and academics as they apply for either a fellowship or a grant application.

⁴² Correspondence with Lowry McComb, Director of Postgraduate Training, Durham University

⁴³ The technique of evaluating training and development activity through case studies is well established see the ‘Success Case Method (SCM)’ in Brinkerhoff, R., ‘Telling Training’s Story: Evaluation Made Simple, Credible and Effective’ Berrett-Koehler (2006) ISBN-10: 1576751864; ISBN-13: 978-1576751862

⁴⁴ Correspondence with Stephanie Aspin of the University of East Anglia reporting the work of Liam Aspin Kings College, London, Stephanie Aspin UEA and Richard Draeger UEA

⁴⁵ Correspondence with Odette Dewhurst, University of Leeds

Evaluation has focused on the 3-12 month long programmes, which ran for the first time in 2005/06 and focused specifically on supporting research and academic staff applying to the ESRC's 'First Grants Scheme'.

The programme has subsequently been expanded and as of July 2009 has run in:

- *Faculty of Medicine & Health* (annually since 2007/08) covering MRC New Investigators Award, NIHR Research for Patient Benefit and MRC Developmental Pathway Funding Scheme
- *Institute of Psychological Sciences* (within Faculty of Medicine & Health) (2008/09) covering BBSRC Responsive Mode, ESRC Fellowships
- *Faculty of Education Social Sciences & Law* (annually since 2005/06) covering ESRC First, Small and Standard Schemes
- *Faculty of Engineering* (2008/09) covering EPSRC Challenging Engineering, First and Responsive Mode Schemes
- *Faculty of Arts* (2008/09) covering AHRC Early Careers and British Academy Small Research Grants Scheme (due to finish in October 2009).

Provisional outcomes to date include a total of 36 grant applications submitted by the 55 participants, representing over £10M bids for funding. Of these, the outcome of 24 applications is currently known, eight of these have been successful totalling £2.23M equating to a current success rate of 33%. 12 applications (£4.05M) are still undergoing the review process with outcomes expected between September and late November 2009.

These programmes are aimed at supporting researchers across a wide range of disciplines, with limited/no previous experience of applying for funding. Proposals have a wide range in value from £14K to £1.029M, with an average value of £280K.

In addition to recording the success rates of proposals submitted as part of these programmes, the success rates of proposals submitted since participation are also recorded. 20 such applications have been submitted (£2.23M), of which eight proposals (£848K) have been successful and 12 (£1.56M) are still pending. This equates to a success rate of 62% for the proposals where the outcome has been announced.

Although the numbers of grants are small compared to those submitted by the University of Leeds as a whole, the figures are encouraging. For example the current national success rates for the funding schemes covered range from 19-26%⁴⁶.

The **University of Sheffield (26)**⁴⁷ School of Medicine and Biomedical Sciences have developed a research staff programme building evaluation into the programme from the outset (further details Appendix 1, case study 6). Initial level 4 outcomes identified include:

- improvements in fellowship applications, numbers obtaining interviews, and awards following the introduction of a 'Fellowship Career Day' and a coaching programme
- 76% of participants registering as science ambassadors following 'communicating with the public and outreach activities' work

⁴⁶ EPSRC Annual Report 2008/09 www.epsrc.ac.uk/Publications/Corporate/ARA08-09.htm
BBSRC Annual Report 2008/09 www.bbsrc.ac.uk/publications/accounts/bbsrc_annual_08_09.html
MRC Quantity application and award rates 2008/2009 www.mrc.ac.uk/Utilities/Documentrecord/index.htm?d=MRC006197
ESRC Annual Report 2008/09 (part 3) www.esrc.ac.uk/ESRCInfoCentre/about/CI/accounts/index.aspx

⁴⁷ Correspondence with Lucy Lee, School of Medicine and Biomedical Sciences, University of Sheffield

- writing research for publication activity has supported researchers in improving their research publication record, with one participant winning a 'Young Neurosurgeon Award 2009' award for a conference paper
- developing commercial skills activities have demonstrated impact, for example, by one participant gaining employment as a business development manager as a direct result of workshop activity.

Newcastle University (27)⁴⁸, Faculty of Medical Sciences, are evaluating their postgraduate researcher development programme, tracking participant cohorts from 2005 – 2009. The evaluation is longitudinal and workshops are evaluated with reference to each of the headings of the RCUK Joint Statement of Skills (JSS)⁴⁹. For example, workshops targeting 'Research Skills and Techniques', were reviewed with the aim of determining the impact on specific skills in this section. Initial evaluation findings include:

- *research skills and techniques* - 39 of the 88 postgraduate researcher 2006 cohort have already been able to publish work. 72% of those who have been published have benefited from training in research methods, academic writing or both. 38% of those who are yet to publish have not benefited from this training. It was noted that many of those who are published but did not attend training sessions are experienced researchers completing their degrees as staff candidates or NHS employees
- *research skills and techniques* - all postgraduate researchers are required to produce an annual report to demonstrate their progress. When assessing the outcomes of first year reports for the 2007/8 cohort, 94% of those attending the 'Literature Reviews and First Year Reports' workshops were able to progress without revision. Of those who did not attend this session 82% progressed without requiring some additional work
- *research management* - in 38 PhD thesis outcomes for the 2005/6 cohort only two had to redress problems in referencing. Neither had attended the sessions providing guidance on the use of bibliographic software
- *communication skills* – the 'Document Management, Academic Writing and Thesis Writing' sessions all help prepare postgraduate researchers to produce well written and formatted documents. Of the 2005/6 cohort undertaking their viva, 55% had received organised training in writing or document management and only 5% (1 individual) had a negative comment relating to the structure or writing style of their thesis. Of those who did not attend these sessions 17% (3 individuals) had negative comments regarding structure or style.

4.2 Evaluation activity planned or in progress

There are multiple sector wide projects planned for 2009 and beyond. These include projects that will look at evaluating single impact levels and those that will include multiple evaluation tasks to investigate impact across the full RTIF. There are planned evaluations at programme level, workshop level and long-term longitudinal studies.

⁴⁸ Correspondence with Richy Hetherington, Newcastle University

⁴⁹ www.vitae.ac.uk/jss

The London School of Hygiene and Technical Medicine (LSHTM)⁵⁰ are developing evaluation forms focused around course descriptors to increase the impact information received from participants from impact levels 0 - 1 to levels 2 and 3. This is part of a wider strategy to embed the concept and practice of continuing professional development within a research degree programme of study.

At the University of East Anglia⁵¹ there is a study looking at the 'Self-perception of skills in postgraduate researchers making the transition to PhD'. The project considers the experience of PhD researchers in the early stages of their research and their transition towards independent researchers, looking at their perceived skills development through skills training activities.

Imperial College⁵² are continuing their work using SkiPI to look at end stage PhD researchers. In particular the study looks at researcher reflections on how far they feel they have improved in confidence relating to a number of transferable skills areas and to what extent they attribute their skills development to a range of factors. The aim overall is to develop a fuller picture of how postgraduate researchers perceive their development occurs. The work is likely to elucidate impact at levels 2 learning and 3 behaviour. There will be a report on the work at the Vitae 2009 conference⁵³ with a journal publication likely in the future.

Coupling the early work at Imperial College with early stage doctoral researchers (see section 4.1 Imperial College (4)) with the new work on end stage researchers provides the opportunity for longitudinal comparisons.

There are also a number of further planned studies with longitudinal themes. It is longitudinal type studies that have the best opportunity of building evidence of level 4 outcomes and the relationship to training and development activity. Level 4 is the most difficult area to demonstrate relationships between training and development activity and ultimate outcomes, so it is valuable that a number of projects are looking at this level.

The University of Nottingham⁵⁴ have a longitudinal project contacting former postgraduate researchers who have experienced research training since the 2004/05 academic year. The project will look to evaluate impacts at levels 3 and 4.

The University of Leeds, Faculty of Engineering⁵⁵ will be carrying out a longitudinal study consisting of an exit survey of all research staff and postgraduate research looking at the value of training and development activity and the researcher experience. In addition they are doing a more detailed tracking study of postgraduate researchers registered between 1 November 2008 and 31 October 2009. This study will look at researcher perceptions of their skills, impact of skills development on research performance and the factors that have contributed to personal development. Evaluation is also taking place of the 'Planning Your Life and Research Career' two-day training conference in collaboration with the Maths and Physical Sciences and Environment Faculties.

The University of Cambridge⁵⁶ will be carrying out a range of evaluation activity mapped against the RTIF impact levels. The activity will include analysis of the PRES and CROS surveys, case studies, longitudinal study of researchers and plans to create an Employers Forum to explore employers' views of the impact of Roberts activity on recently recruited researchers.

⁵⁰ Correspondence with Lucy Allen, Management Support Officer, LSHTM

⁵¹ Correspondence with Stephanie Aspin, Postgraduate Skills Tutor, University of East Anglia

⁵² Correspondence with Elaine Walsh, Senior Lecturer in Transferable Skills, Imperial College

⁵³ www.vitae.ac.uk/vitaeconference2009

⁵⁴ Correspondence with Parmjit Dhugga, Researcher Development Manager (Engineering), University of Nottingham.

⁵⁵ Correspondence with Patricia Gray, Graduate Skills Training Manager, Faculty of Engineering University of Leeds

⁵⁶ Correspondence with Liz Simmonds, University of Cambridge Careers Service

The University of Bristol⁵⁷ are carrying out a project investigating whether there is a link between high performance by departments in the RAE in 2008 and corresponding high scores for research staff in the Bristol Staff Survey of 2007.

The UK Research Councils⁵⁸ are carrying out a major longitudinal study into the career paths of doctoral researchers. RCUK, *'wish to broaden and deepen current understanding of the value and impact of doctoral training'*. The study has included enhancement of the Higher Education Statistics Agency longitudinal survey which asks graduates about their careers and choices approximately three and half years after graduation. It will also involve collection of career profiles of doctoral graduates and exploring employers' perceptions. It is likely that useful information contributing to impact level 4 outcomes will come out of this project. In addition Vitae are continuing to develop a wide range of career profiles of researchers⁵⁹ that may equally provide valuable level 4 impact evidence.

There are a number of planned projects looking at evaluation of specific skills and activity. The University of Kent⁶⁰ are directing a national project looking at assessment and evaluation methods and their impact within courses. The University of Edinburgh⁶¹ will be evaluating their EPSRC entrepreneurship funded activity using a repeated measures methodology developed by the Education for Higher Growth Initiative group⁶². The University of Leeds⁶³ will be carrying out a number of studies on various aspects of provision, including:

- the role and impact of skills training in promoting and developing researcher public engagement
- evaluating the benefits of NVivo (qualitative analysis software) training for postgraduate researchers and research staff and the perceived benefits of incorporating the software in research
- an evaluation of the impact of their Researcher@Leeds programme (designed to enable researchers to build an on-line identity)
- a survey of supervisors to evaluate the impact of training and development activity in engineering
- continued evaluation of the impact of grant writing activity
- continued evaluation of the impact of speed reading training and development activity.

The University of Glasgow⁶⁴ plan to evaluate a number of training and development activities at various intervals post event. Approaches include a GRADschool follow-up event, surveys and questionnaires and contacting supervisors.

There are also a number of activities planned or ongoing at the national level that will contribute to building the impact evidence base. In 2010 there will be an interim evaluation of Vitae, which will look at how the Vitae aims and associated activities are impacting on policy development in this area and institutional provision and practice (levels 0 – 4). As a specific project, Vitae will build on the existing evaluations the 'Effective researcher' workshops, eg at Heriot-Watt University and the University of Glasgow, to undertake a national evaluation of the 'Effective researcher' programme, which has now been run in 30 institutions (levels 0 – 4).

Vitae with the Rugby Team are developing a 'Researcher Development Framework' (RDF), which will provide a framework of the skills, competencies and attributes of researchers in higher education, against which HEIs will be able to review their provision (level 0). The aim is to complement this with skills assessment tools so researchers can identify and evidence their proficiency against a range of descriptors (levels 0 – 4).

⁵⁷ Correspondence with Christian Carter, University of Bristol

⁵⁸ Correspondence with Kate Reading, RCUK and 'Building Evidence of Researchers' Impact' www.rcuk.ac.uk/rescareer/rcdu/impact.htm

⁵⁹ www.vitae.ac.uk/1341/Career-stories-portal.html

⁶⁰ Correspondence with Martin Gough, Lecturer in Higher Education and Academic Practice, University of Kent. Further information available at www.kent.ac.uk/uelt/academic-practice/support-for-teaching/externally-funded-projects.html

⁶¹ Correspondence with Donna Murray, Transferable Skills Unit, University of Edinburgh

⁶² www.cambridge-mit.org/project/home/?objid=1613

⁶³ Tony Bromley, Odette Dewhurst, Paula Fallon, Patricia Gray, Katharine Griffiths, University of Leeds

⁶⁴ Correspondence with Elizabeth Adams, University of Glasgow

Activities related to the implementation and benchmarking of the 'Concordat to Support the Career Development of Researchers'⁶⁵ will also provide further evidence of the impact of training and development activities. The 'Careers in Research Online Survey' (CROS) has been revised to map against the Concordat principles and run by 51 institutions in 2009. Initial findings⁶⁶ indicate that both the provision and uptake of training and development activities has increased (levels 0 – 1). Further analysis may reveal additional impacts.

A proposed survey of how institutions are responding strategically to implementing the Concordat principles will provide further information on provision of training and development activities (level 0).

5. Summary and looking forward

There is clearly significant and growing evaluation activity in the sector and plans to support continued growth. This report presents a 'snap-shot' of reported activity across the sector and clearly there is significant ongoing evaluation activity that is not reported here. The sector is demonstrably taking responsibility for evaluating researcher training and development activity. It is also clear that by continuing to work collaboratively and sharing information, through this report and other mechanisms, the sector can be confident in achieving the aim of building a significant evidence base for researcher training and development over the coming years. The sector is encouraged to continue to use both the JISCmail network, the Vitae Database of practice and other mechanisms detailed in Table 3 to support the development, growth and sharing of practice.

Evaluation activity can make a valuable contribution to building the evidence base whether it is on the small scale such as level 1 reaction responses from participant feedback forms or a large scale project considering the whole RTIF. Whilst a single observation in itself may not be considered important, if shared across the sector it can become increasingly significant and powerful as more institutions express similar observations.

Enhanced evaluation practice can also be achieved by building upon existing evaluation through, for example, adding in focus groups or canvassing supervisors' views. Evaluation that provides information on the impact of provision on participants also enhances the training and development provision of the institution.

The Rugby Team Impact Framework has been invaluable in providing a national evaluation framework and language such that the contribution of data generated from wide-ranging evaluation activities using differing methods, can be clearly seen in the context of a single framework.

⁶⁵ www.researchconcordat.ac.uk/

⁶⁶ 'Careers in Research Online Survey (CROS) 2009 Analysis of aggregated UK results', Vitae www.cros.ac.uk

Appendix 1 – A selection of evaluation case studies

Case study 1: Evaluation of 'How to be an effective researcher', Elena Golovushkina and Rob Daley, Educational Development Unit, Heriot-Watt University

Case study 2: 'One Step Beyond GRADschool', Elizabeth Newall, University of Leicester

Case study 3: 'Outreach and Public Engagement Skills Training', Dr Steve Dorney, Faculty of Science, Engineering and Mathematics (FESM), University of Southampton

Case study 4: Science Communication Course, Neil Walford, Learning and Organisational Development Manager, Institute for Cancer Research

Case study 5: 'Success Stories', Terry Barry, Learning and Teaching Unit, University of Essex

Case study 6: Impact Evaluation Framework: Researcher Staff Continued Professional Development Programme, Lucy Lee, School of Medicine and Biomedical Sciences, University of Sheffield

Case study 1: Evaluation of 'How to be an effective researcher', Elena Golovushkina and Rob Daley, Educational Development Unit, Heriot-Watt University

This project: 'Impact evaluation of 'How to be an effective researcher' course' concentrated on the evaluation of the course 'How to be an effective researcher' (ER) at Heriot-Watt University. This course is a part of the Researcher Development Programme for postgraduate researchers, run by the University's Educational Development Unit. The course entails a two-day workshop designed to prepare postgraduate researchers, who are six to 18 months into their doctoral studies, for their research.

The aim of this project was to conduct a summative evaluation of the course 'How to be an effective researcher' through the collection and analysis of useful and reliable feedback regarding its effectiveness. This course has been selected for a number of reasons. Firstly, an overall evaluation of this course has never been conducted before. Secondly, the course has been run for over three years now, which enabled us to evaluate its long-lasting impact. Thirdly, it was a discrete project that could be undertaken with the resources available.

The evaluation was conducted using the Rugby Team Impact Framework.⁶⁷ Data was collected using multiple methods including an online questionnaire, phone interviews, a Skills Perception Inventory (SkiPI)⁶⁸ as well as analysis of the end of course feedback forms. Data analysis identified impact of the course on three levels of the RTIF.

Level 1: analysis of feedback forms identified the post-course attitude of the participants. Over 90% of all the participants have a very positive attitude to the course and would recommend other postgraduate researchers to attend it.

Level 2: the information obtained through SkiPI indicated an increase in the confidence of the respondents in all five skills areas. The results showed that after attending the course there were increases in the participants' perceived levels of skill in each area: assertiveness, leadership, problem solving, project planning and communication (Figure A1). Also a more positive attitude to skills development courses overall was demonstrated. We have just started administering the SkiPI, so it is still early to talk about any statistically significant results. However, the SkiPI will be used in the future, and administered to participants of the other ER courses. More quantitative data should help make statistically significant conclusions.

Respondents were asked questions about the most valuable things they learnt on the course. Analysis identified four main categories: communication skills, ability to collaborate better with a supervisor, self-awareness and project management.

⁶⁷ The Rugby Team (2008) Rugby Team Impact Framework. www.vitae.ac.uk/CMS/files/1.Rugby%20Impact%20Framework_33.pdf

⁶⁸ Based on that devised by Alpay and Walsh. See Alpay, E., Walsh, E. (2008) A skills perception inventory for evaluating postgraduate transferable skills development. *Assessment and Evaluation in Higher Education*, vol 33, no 6, pp581-595

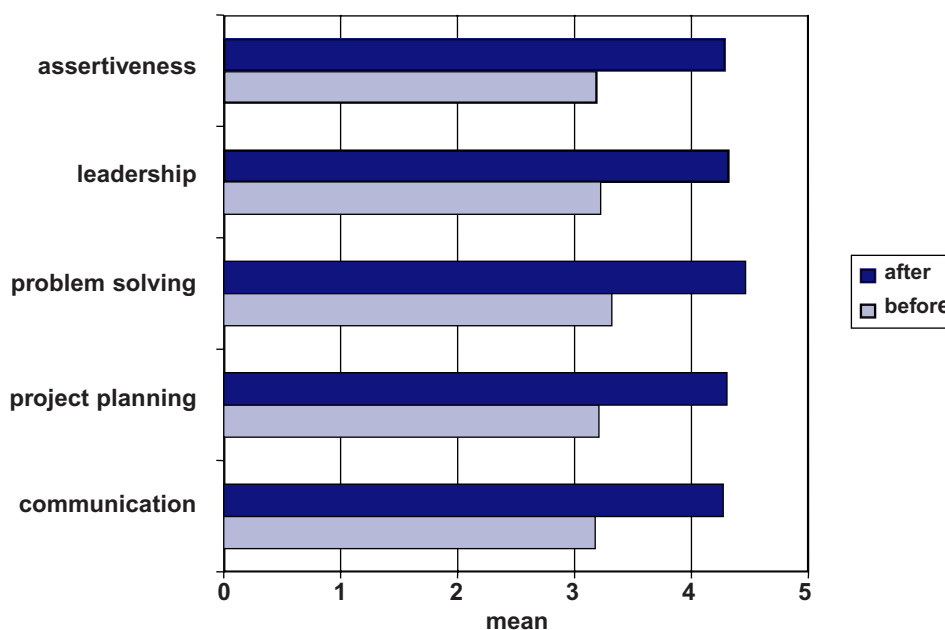


Figure A1: Participants perceived level of skill before and after the ‘Effective researcher’ course

Level 3: in an online survey open to all previous course participants:

- over 70% of respondents reported that the course helped them to perform better in their research
- 76% of respondents have changed their approach to professional development after attending the course
- the course had also stimulated over 76% of participants to attend other skills development courses and workshops such as GRADschools.

Results also highlighted the role of the supervisor in encouraging postgraduate researchers to attend skills development workshops. 21% of participants disagreed with the statement that their supervisors had approved their participation in the course.

In terms of improvement of the course content, a number of issues have been identified. Several respondents suggested a need for a follow-up event after the course in order to give the participants an opportunity to discuss the application of skills and knowledge in practice. Participants also expressed the opinion that the sessions should be more practice-oriented. Finally, some respondents believed that they would have benefited from the opportunity to interact with supervisors during the workshop.

To summarise, the present project provided a starting point for the overall evaluation of the course ‘How to be an effective researcher’. It is intended that the evaluation of the course be continued by means of focus groups, interviews with stakeholders, and administering SkiPI to future participants of the course together with post-course interviews.

Case study 2: 'One Step Beyond GRADschool', Elizabeth Newall, University of Leicester

'I had a fantastic time. It was an immensely valuable experience for me, and I now feel better equipped to cope with the ups and downs of life as a [postgraduate researcher], and more confident and positive about my longer term future. I also learnt a great deal about myself, and feel more aware of some personal strengths and weaknesses. For me, it was definitely a course which helped me step back and look at the 'big picture', and although many of my issues and concerns still exist, I somehow feel happier in myself, more in control of my future and able to think effectively about my objectives and ways to achieve them.'

This quote was typical of those provided by participants in their written feedback at the point of exit from the University of Leicester's first local GRADschool. All of the feedback was overwhelmingly positive, with many participants going so far as reporting that the impact of the 3-day residential course had been profound.

Aims

As Course Manager, leaving the GRADschool with this feedback was extremely gratifying. However, this feedback was an immediate response from participants who, at the point of giving it, had not left the venue. It was therefore going to be of considerable interest and value to ascertain whether the effects of the rich learning experience derived from attending the GRADschool would still be felt in the weeks and months that followed.

As such, Course Director, Dave Filipoviç-Carter, and external tutor, Jamie McDonald, were commissioned to design a bespoke training programme for a follow-up day for the Leicester GRADschool participants. From an institutional perspective, the aims of this programme were to:

- assess the longer-term impact of the GRADschool on its participants
- establish what further training and support could be put in place to help the participants to continue to realise the objectives with which they left the original course
- to strengthen the community of postgraduate researchers at Leicester.

For the participants, the aims were to:

- recapture the positive energy with which they left their GRADschool
- reflect on the medium-term impacts of the course in the intervening period
- consider how to take this further forward into their PhDs and beyond
- produce new personal action plans.

Methodology

'One Step Beyond GRADschool', a one-day course, was run seven months post-GRADschool by its designers, Dave Filipoviç-Carter and Jamie McDonald, with additional facilitation provided by some of the original tutors and course staff. Guided, active reflection formed a significant part of the programme, with various activities and interventions designed to elicit the impact of the original GRADschool. Practical exercises followed in which groups contributed towards new materials as well as the programme and publicity for the next GRADschool, and highlighted further training needs that the Leicester research skills training programme could address. The programme was drawn together by participants clarifying personal and professional objectives and preparing action plans.

Key impacts of the GRADschool revealed by the follow-up day

In terms of the Rugby Team Impact Framework, Table A1 indicates key impacts of the GRADschool experience reported by the participants seven months post-course.

Impact Level	Detail of GRADschool impact on participants seven months post-course
Level 2	<ul style="list-style-type: none"> Learnt how to change and progress Learnt how to reflect Proved that I could deal with external and different challenges Learnt to react differently to situations in a better way for me Learnt how to be more flexible Learnt how to deal with others better Realised that communication is vital and criticism useful Learnt how to tackle confrontations Learnt how to listen to other people Realised I am able to choose direction of life Created awareness of possibilities Overcame apprehension, loneliness and isolation Gained self-confidence Increased confidence to make life decisions Became more assertive
Level 3	<ul style="list-style-type: none"> Made decisions and then acted on them Made me stop and think through situations Made more informed decisions Changed and improved relationship with supervisor (more communication) Led to better working relationships Meeting different people made me more tolerant towards others More clarity and ownership of PhD Gave me focus on finishing PhD Applications became more ambitious Looked at different options for life Decided on what to do next Allowed me to make/validate decision Led to more balanced life Made me happy again Made me see bigger picture Taken on more challenges Life changing Achieved a better work/life balance Accepted that I am different and there is space for me
Level 4	<ul style="list-style-type: none"> Got a job Offered a research staff post as direct result

Table A1: Key impacts of the GRADschool experience reported by participants seven months post-course

'One Step Beyond GRADschool' showed that the University of Leicester's GRADschool had continued to impact on participants over the seven months that followed, and provided a strong indicator that these impacts would still be felt for some considerable time to come.

Case study 3: 'Outreach and Public Engagement Skills Training', Dr Steve Dorney, Faculty of Science, Engineering and Mathematics (FESM), University of Southampton

Background

This is a course developed and hosted by the Institute of Sound and Vibration Research (ISVR), but available to all FESM postgraduates and research staff. Participants attend a set of workshops over one day. These workshops are delivered by both University outreach specialists and by external consultants. External expertise is used to frame the course in a national public engagement context and to provide insight into the school, youth and community sectors. Participants are also required to make short presentations to pupils from a local secondary school, and these pupils provide immediate critique and feedback.

The course has four objectives:

- to build and sustain outreach and public engagement capacity across the Faculty
- to provide an opportunity to practice and reflect on individual outreach and public engagement activities before 'going live'
- to increase the overall quality of outreach and public engagement
- to build and sustain external partnerships with non-university sectors.

At the time of writing (November 2008) the course is in its fourth iteration.

Evaluation aims

- In the short term, we want to know if our target audience (postgraduates and research staff) find the course useful
- Also in the short term, we want to understand what the participants have learnt from their experience of the course
- In the medium term, we want to know how they have used skills developed on the course
- In the longer term, we want to identify novel or extended activities that are clearly linked to participation on the course

Evaluation methodology

In-course evaluations by school pupils: Before the course, University staff work with pupils from a local secondary school to establish an appropriate evaluative protocol. This is an extension of the secondary school's own programme for Learning Monitors (ie pupils assess teaching quality). In practice, this means letting the pupils use their existing system on sample presentations, and adapting the mechanism as appropriate. Participants are forewarned that they need to prepare a ten minute presentation, they will repeat it to two different groups and they will get immediate feedback. Pupils manage the presentation session, introducing themselves, inviting speaker to start, keeping time, etc. At the end of each presentation the pupil group (usually three pupils) consults for a short period then provides feedback. The feedback consists of general comments on content and style, identification of good points, recommendations for improvement, and a formal thank-you.

Course evaluation questionnaires: A form is used requesting views on agreement with a number of statements about learning and the opportunity for any commentary about the programme.

Applications for follow-up activity funds: Participants can make a competitive application for small grants (£1,500 x 3 in 2008) to support a new activity for delivery during the University's National Science and Engineering Week (NSEW) programme. The number and quality of applications for funding for follow-up activity is seen as an evaluation measure of the programme. Applications are reviewed by a panel of outreach and public engagement specialists. Funded applications are selected on basis of evidence of learning, viability, and sustainability.

Evidence of long-term change: A further evaluation measure is the involvement of course participants in other FESM outreach and public engagement initiatives.

What were the key 'impacts' on participants?

- Above all else, seeing and believing that one's research is interesting beyond one's research peer group, if presented in an accessible way
- Participants from 2007/08 are now leading on a murder mystery/solve-it science quest for 2009 and the 'Oceans On Wheels' deep ocean science roadshow that will tour in 2009/10
- The value of a practice in front of a typical audience – feedback from the '*horse's mouth*' as one participant puts it
- Understanding, through experience, the potential for a constructive dialogue between researchers and the public
- For those who have never been in a UK school, the youth and community workshop is especially useful
- Seeing and/or doing examples of best practice (eg at the last iteration, a colleague from physics ran a holography outreach session with the school pupils and the course participants)
- Being able to meet a group of school pupils and to reconsider expectations, fears and anxieties: participants sometimes note that the pupils are '*too well-behaved*'. However, our view is that they are not untypical of local schools in general when presented with enthusiastic science delivered by outsiders
- Becoming part of the network of researchers and specialists in public engagement within the University
- Understanding the potential of partnerships with organisations beyond the University

Evaluation evidence related to the Rugby Team Impact Framework

Level 1: Reaction

- Participants provided positive reactions to the programme, as above
- External consultants note that course '*is a well put-together package*'

Level 2: Learning

- See above

Level 3: Behaviour

- From 48 participants in 2007/08, 12 applications for NSEW funding have been received. These 12 applications involved 28 of the original participants plus a further 19 individuals were named as part of the proposed delivery team. The three funded projects delivered novel outreach activities to 2,000+ visitors to NSEW at the University in March 2008. Two of the project teams are now involved with the 'Oceans on Wheels' roadshow. The third project team has initiated an outreach training scheme within their own School
- A small number of the non-funded NSEW applicants have developed other funded outreach projects within the University
- In some fields, connections have been made with FESM undergraduate societies (eg robotics) so that postgraduate and undergraduate outreach is more co-ordinated
- Informal reports from colleagues indicate that outreach and public engagement specialists are increasingly well supported by postgraduates and research staff in their departmental initiatives

Level 4: Outcomes

- Measurable outcomes include the two new outreach initiatives for 2009/10
- We are attempting to monitor participant involvement with public engagement funding applications, eg RAEng Ingenious, EPSRC PPE, etc

Case study 4: 'Science Communication Course', Neil Walford, Learning and Organisational Development Manager, Institute for Cancer Research

Science Communication Course

This is an annual training programme offered to all postgraduate researchers at the Institute of Cancer Research (ICR). It is facilitated by leading scientific communicators: a Radio 4 Science Journalist, Communications Director and former Nature editor who was awarded CBE for Science Communication. It runs over two days and consists of tutor presentations, group work, a mock press conference and several skills practices during which participants present their science to a lay audience. These are filmed and digital copies made available to the postgraduate researchers for their websites.

The programme finishes with a series of presentations by staff at the ICR outlining opportunities for postgraduate researchers to put their new skills into practice eg presentations to fundraising, writing an article for in house journals, undertaking outreach activities. Participation in one of these activities is a requirement of the course.

Rationale for programme

The funding of the programme reflects the interests of the different parties involved in it, and it is designed to meet four specific needs.

1. Research Councils

Communication skills are a key part of Joint Skills Statement, and Research Councils require funded postgraduate researchers to be able to:

- construct coherent arguments and articulate ideas clearly to a range of audiences, formally and informally through a variety of techniques
- constructively defend research outcomes at seminars and viva examination
- contribute to promoting the public understanding of the research field.

2. HEFCE Science Outreach

The ICR receives funding from HEFCE to promote the broader public communication of science. Participants are requested to undertake external presentations to support this.

3. The Institute of Cancer Research

The ICR uses participants on the course to ensure that all staff are aware of the science being undertaken here. Participants give presentations to non-scientists at the ICR, or write for in-house journals.

4. Individual participants

In addition to the organisational objectives detailed above, individual's attending the course are also seeking to:

- understand some of the key components of effective science communication
- understand how the popular media approaches science stories and what they are looking for
- consider techniques for explaining complex scientific topics to a non specialist audience
- understand how to tailor scientific presentations to specific audiences
- practice and receive feedback on written and verbal communication skills.

Evaluation

Prior to attending a course, all participants at the ICR are sent a standard online questionnaire to record their objectives. This asks:

Reasons for wishing to attend the training?

Key changes expected in working practices as a result of the training?

Key changes your manager would expect to see?

This information is automatically collated and read by the training manager and tutors in advance to ensure expectations are realistic.

Evaluation A

A few days after the training participants are sent an online questionnaire with the following questions on:

What was the most useful part of the training and why?

What was the least useful part of the training and why?

How can we improve this training?

How would you rate your skills in this area before, and after, the training? (1-10)

How will the training assist you with your work at the Institute?

What additional support, if any, would you like to assist you to develop your skills in this area?

What brief sentence best sums up your experience of this training?

Should we run the programme again?

Any additional comments (including comments on the trainers)?

Responses are collated, shared with the trainers and all parties involved in the workshop, and made available online to potential future participants.

Evaluation B

Three months after the training the participants are sent a further online questionnaire asking:

Have you been using any of the skills or information learnt on the training course in your workplace? If so, which areas in particular?

What key changes did you expect to see in your workplace after the training, and did they happen?

What, if anything, has limited your ability to use the training in your workplace?

Having had chance to reflect, are there any changes you would like to suggest to the course?

Has your manager or anyone commented on specific changes in your behaviour/performance since attending the training? If so please give details.

This is aimed at identifying any barriers to transfer of learning.

Evaluation C

Approximately three months after the course, when we have collated the feedback, and received the views of the tutors, we meet with the 'internal customers' of the course – relevant people from our Registry, Fundraising, Internal Communication, and Science Outreach teams. We identify how many of the participants have volunteered to present on or write about their science and we track this figure annually.

Broad evaluation

Finally, we send out an annual survey to all postgraduate researchers and their supervisors/managers to assess their satisfaction with training courses, with specific questions asked about the Science Communications course.

Impact against Rugby Team Impact Framework

Level 1: participant level

The training was uniformly well received with participants reporting increasing confidence, understanding of techniques, ability to tailor presentations, etc.

Level 2: attitude change and increased skill level

Participant feedback identified perceived skills level increases (see Evaluation A questions above) and their comments identified attitude change – more positive approach to external presentations, increased confidence. Participants also reported increased skill levels and the filmed individual presentations at the start and end of the course evidenced this.

Level 3: behaviour change

Participants are also more likely to volunteer for outreach activities and presentations at ICR, than are their peers who have not attended the course. They are also more likely to submit articles to internal journals. A survey of supervisors reported positive feedback relating to improved presentation skills. The Evaluation B ie three-monthly follow-up of participants also reported increase in relevant activities.

Level 4: external impact

Our Evaluation C reports an increase in activity such as outreach and fundraising, and more volunteers on waiting lists. However we do not have sufficiently robust measures to track the final impact of the training, ie to show extra income was generated as a result of the presentations and articles of course participants.

Case study 5: 'Success Stories', Terry Barry, Learning and Teaching Unit, University of Essex

The following 'Success Stories' were collected from participants of the respective workshops held by the Learning and Teaching Unit.

Sustaining Your Motivation course

'I attended the Sustaining Your Motivation course, part of the programme run by the Learning and Teaching Unit, not long after I began my PhD. The course included a talk from someone who had completed his PhD quite recently. The talk illustrated a number of ways in which the [postgraduate researcher] had sustained his motivation.

I was particularly struck by the fact that writing articles for publication had been such a motivating experience for the speaker. Writing articles gave him a break from his usual research activities and getting things published had been both an immediate boost to his motivation and a longer term benefit – by adding to his academic profile. I realised from the talk that it was possible to write an article for publication even as early as the first year of my PhD.

I discussed writing an article with my supervisor the next time I saw him. It can take a long time for an article to appear in print, so I am glad I raised the question then. I wrote my article, which appeared in a journal one year and one month after the Sustaining Your Motivation course.

A further message from this course was to build variety into your work as a [postgraduate researcher] in order to sustain your motivation. As a result I have enrolled on the University's Postgraduate Certificate in Higher Education Practice and Frontrunners programmes. I am also a member of the University's Dignity and Respect Working Group.

Looking back I feel that the course I attended was very valuable. It alerted me to the possibility of getting some of my work published. The varied things I have become involved with have added to my experience and as well as sustaining my motivation, they will hopefully enhance my career prospects too'

Postgraduate researcher, Health and Human Sciences

Presentation Skills

'I am a first year PhD [researcher]. This year I have attended a number of workshops organised by the Learning and Teaching Unit, but the most useful ones and the ones with skills that I have been able to practice right away, have been Presentations Skills and Advanced Presentation Skills workshops.

I knew from the start that I have a problem with public speaking as I have encountered difficulties related with stress management during a presentation before while being a student and later presenting at conferences in my home country. This is why I initially decided to attend courses, but later had an even greater motivation, as I was to present at a conference in Cambridge on the 22nd of March this year.

I found the classes to be very useful as while being able to practice my skills, I received very valuable structured

feedback from other participants. This helped me realise that what I had initially considered to be my problem was in reality not something I should worry about and that I should concentrate instead on other aspects of presenting, such as pace and voice levels. Without the feedback I would have never realised the mistakes I had been making previously. The workshop also helped me a lot to be more open in communicating with the audience and making eye-contact.

My Cambridge presentation went very well and the whole conference turned out to be one of the highlights of the term. I am grateful to everyone from the Learning and Teaching Unit for their dedicated and highly professional work with [postgraduate researchers]'

Postgraduate researcher, Literature, Film and Theatre Studies

Case study 6: Long term programme impact evaluation: ‘Researcher Staff Continued Professional Development Programme’, Lucy Lee, School of Medicine and Biomedical Sciences, University of Sheffield

Whole programme evaluation

Foundation/Level 0: baseline study

In order to create an effective impact evaluation framework for the new research staff continuing professional development (CPD) programme, before any training or career activities began we carried out a study to identify the level of the following:

- perception of skills and needs analysis – based on the Joint Skills Statement
- demographics including previous positions held
- research achievements to date (publications, grant applications, awards, conferences etc)
- perception of the department (motivations, community etc)
- level of support currently available including induction, training, research and career development
- career aspirations.

Without this information it would be difficult to assess if the new programme and any changes made an impact to the School as a whole or on an individual level.

Induction programme

It was highlighted that there was an insufficient induction for research staff joining the School. An induction programme was created that involves an initial peer mentoring or ‘buddy’ system, information induction pack, training needs assessment and induction questionnaire, linked to the baseline questionnaire for individual and School monitoring and perception change tracking.

Exit questionnaires

An online exit questionnaire was developed which is highlighted to research staff at the end of their contract. It is directly linked to the baseline questionnaire and asked people to reflect on all aspects that were covered in the baseline questionnaire. This will allow us to monitor the impact of the programme on particular individuals across the duration of their contract.

Levels 1 - 4: measuring change

Bi-annual monitoring

After two years of the programme we will repeat the baseline questionnaire and compare the results against the initial review and induction data in order to see the changes that have been made within the School and to randomly selected individuals. There will also be an element of focus groups and interviews/discussions.

Metrics and case studies

Change will also be monitored using comparisons between numbers of external grants and fellowships applied for, and awarded, as sole or co-applicant, publication records, awards, training engagement levels and CPD activity uptake (eg numbers of research staff carrying out public communication activities). Case studies on an individual's exposure to and impact from the training programme will also be reported.

Monitoring across the programme continuously and more in-depth bi-annually allows us to review and improve the level of training and career development opportunities we deliver to the early career researchers. This aims to eventually deliver activities that allow the programme to cover many of the skills that are highlighted in the Joint Skills Statement.

Initial findings from the previous two years include improvements in fellowship applications, numbers interviewed and awards (07/08 compared to 06/07) after the addition of a 'Fellowship Career Day' and application of coaching to the programme.

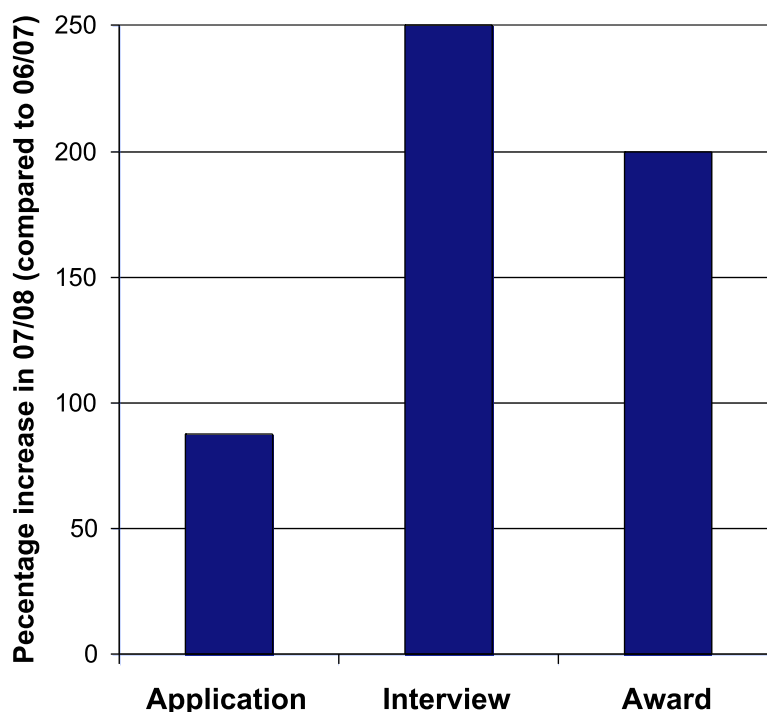


Figure A3: Percentage increase in fellowship applications, interviews and awards 2007/08 compared to 2006/07

Specific activity evaluation within the programme

Activities such as workshops, working-based learning opportunities and career days within the programme are also evaluated on an individual basis. This is also soon to be extended to the career mentoring and fellowship coaching scheme. The evaluation process includes the following:

Level 0: needs analysis, expectation identification, design and outcome determination

Initially when a training opportunity is highlighted as a need, a working group of research staff and academics is brought together to identify what is needed, how it will be best delivered, what is expected of the session and what outcomes can be measured from it. In this way we have developed a programme designed by the research staff, specifically for the research staff. The programme is not solely a series of stand alone workshops but sessions that lead into additional working-based learning opportunities and outcomes that can be monitored in order to strengthen the learning by putting the taught theory into practise.

Level 1: reaction

On-the-day questionnaires are used to assess the initial feedback on the design, delivery and content of the session. Analysis of the feedback forms has revealed a very positive attitude to all the workshops on the programme and some highlights include:

- out of the 114 participants completing feedback on the seven 'Writing a successful grant application' workshops run so far, 83% ranked the course as excellent and 100% would recommend it to a colleague
- 'communicating with the public and outreach activities', 100% of attendees felt their expectations were met and 93% would recommended it to a colleague.

Level 2 - 3: learning and behaviour evaluation

After 6 to 12 months a survey is sent to those who attended the session to specifically identify if they have made any changes to their behaviour as a direct result of the session and to highlight any additional outcomes or achievements. Examples of impact data gathered at level 3 include:

- 67% reported a change in behaviour as a result of the 'Writing a successful grant application' workshop including; *'I have tried to break down what I am trying to explain into more simple terms', 'I make my grants more succinct and take the audience into account' and 'I am more proactive in looking for funding body information'*
- 93% also found it was 'very useful/of some use' to them in the first six months after the event. Of those who had written a grant afterwards, 100% said the workshop helped them in this process
- 100% found the 'Public communication and outreach activities' workshop, 'of some use/very useful' and 88% felt they had changed their behaviour in some way because of the course including; *'I do write better lay abstracts now', 'I now make an effort to explain my work in general terms to people who ask what I do rather than just blandly say that I do research at the University' and 'I make the talks I do more interactive'.*

Level 4: outcome assessment

Outcomes and activities based on the sessions learning objectives are continuously monitored to allow for additions, modifications and development. Examples of impact data gathered at level 4 include:

- 'Communicating with the public and outreach activities' workshop has resulted in 76% of the attendees registering as Science Ambassadors and 75% of those giving further feedback have already taken part in public engagement through science week, public poster presentations, school career events and patient advice groups since the workshop
- formation of writing group networks as a result of the 'Writing your research for publication' workshop. These groups have shown success in improving each other's publication records, with one member being awarded a 'Young Neurosurgeon Award 2009', awarded in recognition of the best papers submitted for presentation during the XIV World Congress of Neurological Surgery meeting

- an increase from one to two groups per year to four to five groups taking part (average 240% increase) in the BioscienceYes competition as a result of attending the 'An introduction to commercial skills for researchers' workshop. One attendee has gained employment as a business development manager as a direct result of taking part in the scheme
- case study comments as a result of the 'Writing a successful grant application' workshop include: *'I found the grant writing workshop extremely useful. The case study format was an excellent opportunity to identify strengths and weaknesses in real grant applications. As a direct result of the grant writing workshop I have endeavoured to be involved in the grant writing process within my department and I have recently been involved in submitting a three- year project grant application to Yorkshire Cancer Research.'*

Redesign and development

The data gathered at all levels is compiled and used to make modifications to the design and delivery of every session in order to further meet the needs of the target audience. This is relayed back to the speaker or host of the session who works with the working group and the other stakeholders to develop the course further.

The Rugby Team

evaluating the impacts of
developing researcher skills

The Rugby Team is a sector-led working group, which was set up following the UK GRAD Programme (now Vitae) Roberts Policy Forum in Rugby in January 2005.

The mission of the group is to propose meaningful and workable ways of evaluating the effectiveness of skills development in early career researchers.

In 2008 the Rugby Team developed terms of reference for 2008 – 2012:

- raise the awareness of the importance of evaluating the effectiveness of skills development and the activities of the Rugby Team
- inform national and agency policies and practices relating to the evaluation of skills development of researchers
- provide sector input into shaping a programme to build an evidence base on the effectiveness of developing researchers' skills
- act as a sector 'sounding board' to Vitae with respect to their engagement in helping to build the evidence base.

Membership of the Rugby Team is drawn from a cross-section of HEIs and other stakeholders interested in the personal and career development of researchers. The Rugby Team reports back on progress and outputs to the Vitae Roberts Policy Forum.

To ensure as wide an input as possible the Rugby Team also operates a Virtual Consultation Group (VCG); membership of this group is open to all. To join go to www.vitae.ac.uk/rugbyteam or contact admin@vitae.ac.uk

For more information on Rugby Team activities go to www.vitae.ac.uk/rugbyteam
Vitae provides management support and resources to the Rugby Team.



Incorporating the UK GRAD Programme and UKHERD

Vitae builds on previous work by the UK GRAD Programme and UKHERD. Vitae is supported by Research Councils UK (RCUK), managed by CRAC: The Career Development Organisation and delivered in partnership with regional Hub host universities.

The role of Vitae is to work with UK higher education institutions (HEIs) to embed professional and career development in the research environment. Vitae plays a major role in innovating, sharing practice and enhancing the capability of the higher education sector to provide professional development and training of researchers.

Our vision is for the UK to be world-class in supporting the personal, professional and career development of researchers.

To achieve our vision we have four aims:

- championing the development and implementation of effective policy
- enhancing higher education provision through sharing practice and resources
- providing access to development opportunities and resources
- building an evidence base to support the researcher development agenda.

For further information about the range of Vitae activities go to www.vitae.ac.uk or contact enquiries@vitae.ac.uk

**Vitae, c/o CRAC, 2nd Floor, Sheraton House,
Castle Park, Cambridge CB3 0AX**



Vitae is supported by Research Councils UK (RCUK), managed by CRAC: The Career Development Organisation and delivered in partnership with regional Hub host universities

