

Establishing a baseline as the first step to evaluating impact

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Establishing a baseline as the first step to evaluating impact

Sheffield Hallam University case study

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Introduction

Experienced developers arrive in new roles with their own portfolio of materials and refined thinking about the techniques of their profession. They know that the best training and development can never come 'off-the-shelf', and must be both co-created with key stakeholders and informed by the specific needs of those whose development needs are being addressed. Therefore, although keen to make an instant impression, the first task of the developer must be to understand their new environment, orientate themselves in the unique situation they have entered, and establish an evidence-base to inform priorities. Demonstrating that interventions are evidence-based is key to gaining legitimacy for development work, particularly in a higher education institution. All this activity can be recorded and used to create a baseline, against which future provision and its impact can be measured.

This paper details the activities and findings of the Researcher Development Adviser at Sheffield Hallam University during their first nine months in post. This was a new role and the University had no tradition of co-ordinated researcher development. The individual had previous experience working in academic development, although not in a teaching-led institution. The output of this work was a detailed baseline report for the University's Research and Innovation Committee. The key findings of that report have been incorporated into this paper.

Context: research at Sheffield Hallam University

Whilst Sheffield Hallam is a teaching-led institution, it is actively research-engaged and around 28% of academic staff undertake research.² Within the University's portfolio of research activity, contract research accounts for almost half of income; such funders are not traditional drivers of the researcher development agenda, compared to research councils. The University is strongly committed to producing excellent research and believes in investing in developing a capable, confident, recognised and valued community of researchers.

Sheffield Hallam concentrates its research strength in specific subject areas of international standing. Research is largely clustered into 16 research centres and institutes, together with several specialised

research groups; these organisational structures cover 11-13 REF UOAs³. In the 2008 RAE⁴, 68% of research was rated international quality or above. The University was ranked sixth for 'research power' of the post-92s⁵, taking into account both the quality and volume of the submission. To put this in context, Sheffield Hallam is the third largest university in the UK⁶ and explicitly aims to be 'the best University for teaching'⁷.

Unlike many other institutions, Sheffield Hallam University has been largely unaffected by the Roberts' funding curve⁸. Investment in researcher development over the last decade has been incremental and sustainable, rather than pump primed. The University's researcher development drivers are therefore internal – its commitment to increasing the quality and quantity of research outputs and to facilitating career satisfaction of researchers for reasons of retention and recruitment.

In terms of development previously offered, research ethics, grant writing and funding, intellectual property (IP) and other support courses for research staff were provided by the research office, complemented by local activities within research centres and groups. postgraduate skills workshops and courses on local research methods also existed for postgraduate research students (PGRs). However there had been no real co-ordinated or strategic researcher development.

Aims: researcher development

In December 2012 the University appointed a Researcher Development Adviser. The principal objective of this post was to design and deliver a dedicated development programme for researchers. In particular, the focus was to be on the 'Roberts' Agenda' of career development and transferable skills.

Researcher development at Sheffield Hallam University embodies a broad definition of researcher – anyone in the institution undertaking, or interested in potentially undertaking, research and knowledge transfer. The main engagement is with those aligned to Research Excellence Framework UOAs, but efforts are made to include those outside these structures. The focus is on early and mid-career researchers, although development is open to all research staff. While core postgraduate researcher training is co-ordinated and delivered within faculties, all centrally-provided researcher development is open to postgraduate researchers, except where it is not relevant or appropriate.

² 420 staff were 'REF-considered'. (See below for REF explanation) There are circa 110 Early Career Researchers (ECRs) (grade 6-8 research staff) and 650 Postgraduate Researchers (PGRs).

³ Research Excellence Framework (REF), Unit of Assessment (UOA). The REF is a UK Government process for assessing the excellence of research in higher education institutions: www.ref.ac.uk/ (Accessed 19/03/14). There are different UOAs by discipline.

⁴ Research Assessment Exercise is the preceding UK process to the REF: www.rae.ac.uk/ (Accessed 19/03/14).

⁵ Post-92s – UK institutions originally termed polytechnics, which were given university status by the 'Further and Higher Education Act' (1992) or subsequently.

⁶ By size of student population: www.hesa.ac.uk/dox/dataTables/studentsAndQualifiers/download/institution1112.xls (Accessed 19/03/14).

⁷ Our Vision section of the draft 'University Strategy for 2014 Onwards'.

⁸ Roberts' – Following a UK Government report by Professor Sir Gareth Roberts in 2002, the UK Research Councils invested significant funding in institutions to support the development of postgraduate researchers and subsequently early career researchers. Funding levels were dependent upon the headcount of UK research council-funded researchers at respective institutions, leading to variation in the funding levels per institution. Funding by this method ended in 2011. http://webarchive.nationalarchives.gov.uk/+http://www.hm-treasury.gov.uk/set_for_success.htm (Accessed 19/03/14).

The overarching aims of this researcher development work were clearly defined at the outset; they are to:

- Support the creation of more capable and confident researchers, helping increase: i) the quality of research outputs, ii) research grant and contract income, iii) the impact of research; and thereby contribute to the University's Research Excellence Framework 2020 submission
- Provide development that helps facilitate career satisfaction, as measured through Careers in Research Online Survey (CROS)⁹ and the Employee Opinion Survey (EOS)¹⁰ aiding the retention of the best researchers
- Create a development programme that can be marketed in recruitment activities to promote Sheffield Hallam as a progressive and supportive employer of research staff, to help attract excellent researchers to the University.

Methodology: producing a baseline

It was decided that a baseline position should be established around the perceptions and capabilities of researchers, the challenges they face and their development needs, from both an organisational and an individual perspective. This would act as a reference point ahead of developing activity further and in line with the UK sector evaluation of impact methodology.¹¹

The Researcher Development Adviser conducted an orientation and scoping exercise during spring and summer 2013, identifying specific challenges, the needs of research centres and their researchers, and mapping existing development provision. This involved nearly forty one-to-one meetings with heads of research centres, key stakeholders and other providers of development across the University. In the baseline report the views of individuals were anonymised, although broader subject areas and their particular characteristics were at times explicitly referred to.

In addition, between March and May 2013 the CROS national survey was undertaken, for the first time, to collect the views of early career research staff. This survey permitted direct benchmarking against post-92 competitor institutions, as well as all UK universities. The response rate to this from Sheffield Hallam researchers was 54%, so the data produced was particularly valuable. Three other surveys carried out among Sheffield Hallam research staff were also considered: an internal EOS (September 2011), Loughborough University's Straight Talking Survey (Summer 2010)¹², and the University and College Union's (UCU)¹³ Researcher Survey (May 2009).

While this research was not robust in its nature, the mix of qualitative and quantitative data, and input from a broad range of colleagues, was intended to give this initial evaluation a solid evidence base.

This base-lining process served to draw out several key themes and issues around which the views of those across the institution, and at various levels within it, seemed to coalesce. These key inputs, together with the professional assessment of the Researcher Development Adviser, led to the development of a number of priorities to be addressed and recommendations for action. This is intended to form a roadmap for researcher development work for the next three years.

Themes: challenges

Commercial pressures

In many disciplines at the University, research undertaken is contract research, rather than grant funded research. As research is typically funder-led, research outputs are often reports or products (knowledge transfer). Researchers routinely have little time built in to write up findings as academic papers, as they move straight onto the next project to keep income flowing. The motivation to produce academic outputs often comes from the individual, rather than being funder or corporate driven. Where under-publishing exists, it is seen to result from issues of capacity, rather than capability.

In some cases there can be commercial restrictions on use of the data or findings, especially where the research is privately, rather than publicly, funded.

Research is often managed in teams as projects, with researchers not always involved in the whole project lifecycle. Early career researchers can end up concentrating on just the fieldwork, and are not necessarily involved in the bidding and dissemination processes. Individual contributions within the team are not always easily identifiable.

In the most commercially-orientated areas, where the bottom line is key, longer-term nurturing of junior researchers is of secondary importance. However, being at the sharp end gives researchers useful transferable business skills. In contrast to the RCUK/QR model¹⁴, the commercial world of competitive tenders and having to manage multiple projects, produces particularly agile and employable researchers.

Recognition and progression

As is common in teaching-led universities, researchers at Sheffield Hallam University are a minority group. In some areas they are very detached, both intellectually and physically, from teaching departments. Researchers can feel undervalued within the institution compared to those on teaching contracts. This is the reverse of what tends to be reported in research-led institutions.

It is widely felt that there is no clear progression pathway from researcher to professor. There is no routine senior lecturer equivalent or formalised career structure above grade 8.

⁹ Careers in Research Online Survey – a biennial sector-wide UK research staff survey: www.vitae.ac.uk/impact-and-evaluation/cros (Accessed 19/03/14).

¹⁰ a triennial internal staff survey

¹¹ T. Bromley, J. Metcalfe and C. Park, The Rugby Team Impact Framework (CRAC, 2008) www2.le.ac.uk/departments/gradschool/about/external/publications/impact-framework.pdf (Accessed 19/03/14).

¹² J. Arnold, L. Cohen and R. Harpley, Straight Talking: The Role of Non-Specialist Advice and Networking in Career Conversations for Researchers (CRAC, 2011) www.vitae.ac.uk/vitae-publications/reports/straight-talking-vitae-march-2012.pdf (Accessed 19/03/14). Register to access.

¹³ www.ucu.org.uk/ (Accessed 19/03/14).

¹⁴ The UK Government provides funding for research via a dual support system where public money is delivered either through the Research Councils or the Higher Education Funding Council for England (HEFCE). Research Councils provide research grants for specific projects and programmes, which are awarded on the basis of applications made by individual researchers and which are subject to a competitive peer review process. HEFCE provides block grant funding to support the research infrastructure and enable institutions to undertake research of their choosing. HEFCE support for research (Quality Related or QR funding) is distributed on the basis of the excellence in particular disciplines within higher education institutions, based on the results of the REF.

The reader role is not well understood, widespread or transparent. Researchers do not have automatic career progression, unlike teaching staff, and instead achieve progression through the less obvious re-grading route. Again this is the reverse of what is often found in research-led institutions.

In the 2013 CROS survey, 50.8% of researchers disagreed or strongly disagreed that they had opportunities for promotion and progression, compared with 44.6% for post-92s and 47.4% for all UK universities.

93% of applicants for a new female career progression mentoring scheme were research-active, though this group makes up just 28% of the overall academic population. This is another indicator that progression is a particularly pressing concern for researchers.

Brain drain

This lack of clear progression pathways means that there is a struggle to retain the brightest researchers. One particular research centre reported that their REF return will be notably less than their 2008 RAE due to significant numbers of research-active staff leaving, as distinct from the issue of a higher quality threshold. It was noted that in particular newly appointed research-active staff can quickly move on to other institutions for more supportive research environments.

As well as research-active staff leaving the University, others can become inactive within it. The obvious path for those seeking to progress in the institution is the teaching route. There is a perception that researchers are less well paid than teachers – one grade below for comparable positions – so the individual rewards are perceived to be greater. Teaching is the University's main business and revenue generator, so there is also political pressure and a corporate driver away from research. Subject group leaders in particular can be seen as being opposed to staff maintaining a research profile. For researchers not aligned to research centres, teaching is tightly work planned, whereas research is allocated 23 days a year under the banner of 'self-managed time'. A combination of these factors means that research activity in many new staff soon diminishes.

Research 'outreach'

UK Government market reforms are having a big impact on teaching in parts of the University. Healthcare teaching contracts are now being put out to tender, so universities find themselves in competition with trusts. Similarly the School Direct Training Programme provides an alternative to university-based teacher training in education schools. To remain the premier provider of these programmes, universities will need to articulate their unique selling point – that they generate, as well as impart, knowledge. This means being explicit about how research informs teaching and how research-led teaching contributes to the student experience. These developments intensify the established concern that universities which do not maintain and promote their research profile, struggle to recruit (especially international) students.

Within teaching-led institutions there can be challenges to embedding research in the curriculum. Firstly there is confusion over what research-led teaching actually is. It seems to be commonly confused with pedagogy, rather than the teaching of a topic that the teacher has researched or is researching.

At Sheffield Hallam University, teaching and research do not necessarily overlap within disciplines, such as in the less-established research groups that have been orientated towards other REF UOA areas.

With 72% of academic staff not research-active, there is a large group in need of incentivising and support to engage in research. In a number of areas there does however seem to be an appetite for encouraging the latent research talent of teaching staff.

In terms of barriers, those outside of the research community report that they can find it inaccessible. They sometimes report snobbery around research, and find research centres insular. They also seem to lack confidence around some of the basic principles and there appears to be a need for more guidance on introductory topics such as: what is research, demystifying research, turning ideas into research, getting a project off the ground, getting funding for ideas, what 2*, 3* and 4*¹⁵ research looks like etc. It is felt that many want to be research-active, but are overwhelmed by the teaching ethos and deterred by the perceived impenetrability of academic research.

There is a perception that most research resources at the moment support high fliers (3* and 4* researchers and early career researchers on clear trajectories to becoming them), rather than beginner or more casual researchers. Significant institutional investment would be needed to support and nurture these latter groups for large-scale research capacity building to occur; although more targeted talent-spotting would be a more efficient approach.

Themes: opportunities

Career satisfaction

According to CROS 2013 data, the University has an exceptionally high proportion of junior researchers on permanent contracts: 70.7%, compared to 38.8% for post-92s and 21.4% for all UK universities. This is probably the result of a tendency to undertake multiple projects and tendering, instead of taking up RCUK or QR funding, which requires research centres to have a responsive 'in-house' resource, as opposed to recruiting staff on a project-by-project basis. Researchers tend to have long careers within the institution: 36.7% have been at Sheffield Hallam University more than 10 years, compared with 26.8% at post-92s and 24.5% at all universities. This indicates that once they are established as research staff, there is a high retention rate and low turnover of researchers.

The Straight Talking survey was a research project conducted by Loughborough University, undertaken in 2010, published by Vitae in 2012, and completed by 53 Sheffield Hallam researchers¹⁶. Questions about level of satisfaction with or optimism concerning their career (calculated by averaging four questions on this subject) produced particularly notable results. Sheffield Hallam's average was 79%, compared with 56% for all participating institutions. The Loughborough researchers stated that Sheffield Hallam 'was indeed something of an outlier', 'statistically significantly higher' and 'did stand out from the crowd'. The explanation for this put forward by the researchers was that it was 'down to job security and... variety of work over time'. Those on permanent contracts feel more valued, and their work/development is clearly cumulative, rather than discrete.

¹⁵ '2*, 3*, 4*' is terminology used in the UK Government Research Excellence Framework with 4* being the highest rated research and having 'Quality that is world-leading in terms of originality, significance and rigour'. <http://www.ref.ac.uk/panels/assessmentcriteriaandleveldefinitions/> (Accessed 01/07/14)

¹⁶ J. Arnold, L. Cohen and R. Harpley, Straight Talking: The Role of Non-Specialist Advice and Networking in Career Conversations for Researchers (CRAC, 2011) www.vitae.ac.uk/vitae-publications/reports/straight-talking-vitae-march-2012.pdf (Accessed 19/03/14). Register to access.

The University's Employee Opinion Survey (September 2011) found that, when comparing the responses of the research population to those of the wider staff and academic population, research staff appear to be generally more positive about their work: in particular, their job, using their initiative in their job, and being encouraged to be innovative and creative.

Similarly, UCU's Researcher Survey (May 2009) noted that 'a clear majority (75%) are fairly or entirely happy with their current job'.

ii) The researchers

The most important asset a university has is its staff. In comparison with those at other universities, Sheffield Hallam researchers seem considerably more experienced in the range of activities they have undertaken (CROS questions 23-26 – see Appendix 1). They are shown to have more experience in collaborating with external organisations, cross-disciplinary work, managing budgets, project management, grant writing and engagement with policymakers, knowledge exchange and public engagement. They are only less experienced at working with colleagues abroad and producing publications.

Sheffield Hallam researchers have undertaken more training in most areas (CROS question 19 – see Appendix 1). Sheffield Hallam researchers also have considerably more interest in Continuing Professional Development (CPD) in most areas in comparison with their peers. There is appetite for (more than 50% would like to undertake) training in most areas, showing a strong commitment to CPD.

As well as being experienced, agile and engaged, researchers at Sheffield Hallam are also highly capable. Although REF-able outputs may not be plentiful in all areas, research contracts are successfully completed and research centres are reputable and competitive in their fields.

iii) Professionalised postgraduate researchers

Sheffield Hallam University has an inclusive research culture, with an ever-decreasing differentiation between postgraduate researchers and early career researchers. Postgraduate researchers are recognised as contributing researchers and part of the lifeblood of the University's research community.

A relatively high proportion of postgraduate researchers are either staff and/or mature candidates. This again blurs the staff-postgraduate distinction and adds to the richness of the postgraduate researcher community.

Many postgraduate researchers, especially those based in research centres, do applied research on live projects and contracts. This focus on real world needs and delivering tangible benefits ensures that they are highly employable.

The University's extensive experience of undergraduate work placements and its industry contacts mean that there is the opportunity to become a sector leader in providing PhD placements, an emergent theme stemming from the recent Wilson Review¹⁷. Similarly the

University is favourably positioned with another opportunity for growth by providing CPD for staff from industrial partners in the form of postgraduate study.

Recommendations

i) Researcher development programme

A development programme for researchers entitled the Sheffield Hallam Researcher Development (SHaRD) Programme has been established. This consists of a suite of development offerings, structured into 25 themes under five main sections: Research Essentials, Research Skills, Communicating Research, Managing Research and Career Management.¹⁸ The programme outline was drawn up and honed during discussions with heads of research centres regarding the development needs of their researchers and their centres. This process of co-creation, as opposed to the introduction of an 'off-the-shelf' programme, was intended to foster a sense of collective ownership. SHaRD is informed by Vitae's Researcher Development Framework¹⁹, but has been designed very much in response to the specific culture and environment of Sheffield Hallam University. This includes particular focus on writing for publication and publishing strategies with a view to increasing REF-able outputs, on commercial awareness to equip researchers for contract research, and on essentials for those relatively new to researching. The consultation process demonstrated widespread support for SHaRD.

The programme is needs based, individually tailored (rather than linear) and linked to discussions held with line managers and at appraisals regarding career trajectory and development needs analysis. Individual researchers can focus solely on the aspects to further their professional growth and improve effectiveness within their units. Different elements will be more relevant to different parts of the University: it is purposely flexible to reflect the diversity. The majority of sessions are cross-disciplinary to enhance the research community, though care has been taken to ensure that sessions are relevant to all and are not seen as too broad, for example through multiple contributors from different subject areas.

SHaRD has been co-ordinated and delivered by the Researcher Development Adviser, with input from expert practitioners from within the University, and occasional externally, as determined by the topic. Some elements, in particular Teaching, Personal Effectiveness and Management, are simply signposting relevant development provided by other directorates (Learning and Teaching Services, and HR), and have been included to present a coherent and integrated package.

The sessions and other forms of development have been designed under each theme to create a portfolio of courses. In some cases several different sessions exist under each theme, for example Bid Writing is delivered in funder-specific format (RCUK, European Union, charities, government etc.), whereas Budget Management includes both general managing of research budgets and specific budget management using University systems.

¹⁷ The Wilson Review was a UK Government report by Professor Sir Tim Wilson in 2012, which recommended that all postgraduate research students be given the opportunity to undertake a structured, university-approved, work placement. This mirrors the recommendations for undergraduate students first made in the Dearing Report in 1997. www.gov.uk/government/uploads/system/uploads/attachment_data/file/32383/12-610-wilson-review-business-university-collaboration.pdf (Accessed 19/03/14).

¹⁸ <http://shardprogramme.wordpress.com/> and <http://shardprogramme.wordpress.com/shard/>. (Accessed 01/07/14)

¹⁹ www.vitae.ac.uk/rdf (Accessed 19/03/14).

As well as increasing the development opportunities offered to researchers, existing provision has been rationalised with the intention of making it more strategic. Co-ordinated marketing and communications is making development more accessible. SHaRD is also intended to be used as a recruitment tool, to demonstrate externally to potential future researchers the University's commitment to developing its staff.

SHaRD has been launched during the 2013/14 academic session. Courses will be rolled-out incrementally for up to two or three years, with prioritisation in areas where need is perceived to be strongest.

ii) Research environment

Career development of researchers will be strategically attended to, utilising the frameworks of the Researcher Concordat and HR Excellence in Research Award²⁰. A Researcher Concordat Sub-Committee (RCSC) has been established to support and guide the work in this area, as well as being the custodian of the HR Excellence in Research Award and Action Plan²¹.

Advanced proposals are in place regarding the introduction of Researcher Concordat Co-ordinators: eight or nine broadly REF UOA aligned 0.1 FTE roles²², to provide local leadership for developing the careers of researchers.

A key aspect of the HR Excellence in Research Action Plan is the HR Career Pathways project, which will look at introducing a framework that recognises and assists researchers at all stages of their career. Areas that potentially fall within the scope of this project are: research career structures and progression strategies, establishing and utilising the post of reader, and buy-out time systems for research-active staff on teaching contracts.

Other environment initiatives will include building research communities through cross-institutional events (SHaRD researcher workshops) and increased efforts to connect similar research practices. For example a common interest was expressed by research centres in three different faculties regarding a quantitative researchers' network, an area where there is a university-wide deficit.

iii) Integrated approach to academic CPD

The integration and connectivity of academic staff development across the institution is being facilitated through an Academic CPD Portal²³. This helps raise the profile of researcher development, giving it equal footing with teacher development and HR's personal and staff development. The cross-signposting communicates the development opportunities and support available to those in teaching departments interested in undertaking research.

iv) Capacity building

Research capacity can be built either by recruiting researchers who are already delivering high-quality outputs, or by developing those with the potential to do so – the latter being the more cost effective, sustainable and preferable method. However where there is only a small or emerging research community, such as in a post-92 institution, developing researchers can be particularly challenging, as there is not necessarily a wealth of established successful researchers for them to interact with and learn from.

Due to the structure of the research centres, the University is 'top light' on researchers from a development, though not necessarily a delivery, point of view. Perhaps linked to the restricted pathways to professorial issue, there is a scarcity of research mentors for early career staff. Allocating time for senior researchers (professors and readers) to mentor junior staff, such as the mentoring scheme utilised in one research centre, is one way to increase support; although this relies on there being sufficient number of senior researchers, which is not always the case.

Similarly there is a capacity-building related barrier at the next level down, where there is a significant shortage of capable PGR supervisors in a number of areas, whilst overcapacity and lack of opportunity to supervise is prevalent in other areas. The push for staff to complete postgraduate studies and the rolling-out of supervisor training should start to address this over the next 3-5 years.

Initial progress

A series of researcher workshops have run and are planned through 2013-14, including sessions on Open Access Publishing (May 2013), Horizon 2020 European Funding (October 2013), Enterprising Researchers (October 2013), Research Integrity (November 2013), Introduction to Research (March 2014), Publication Strategies (May 2014), Research Impact (May 2014) and Social Media for Researchers (June 2014). These have generally booked out quickly, with encouraging turnout.

The Researcher Concordat Sub-Committee has been established to support and guide this work, as well as being the custodian of the HR Excellence in Research Award and Action Plan. The Academic CPD working group has been set up and is starting to produce outputs such as the Academic CPD web portal. The RCSC's focus is on enhancing the research environment, whilst the Academic CPD group integrates researcher development with other University provision. The respective chairs of the RCSC and Academic CPD group sit on both committees to ensure they are complementary and 'joined up'. Both groups also report to the main Research and Innovation Committee.

²⁰ 'Concordat to Support the Career Development of Researchers' (2008) www.vitae.ac.uk/policy/vitae-concordat-vitae-2011.pdf (Accessed 19-03-14). The HR Excellence in Research Award is the European Commission's quality assurance mark, recognising institutions' commitment to implementing the 'European Charter for Researchers and Code of Conduct for the Recruitment of Researchers' (2005); <http://ec.europa.eu/euraxess/index.cfm/rights/index?CFID=2615813&CFTOKEN=68041574b09cf6a0-924A6C0D-EF84-B842-C9087FED8F1AE1BA&sessionid=b102f00cc820979c518017373d4b5e2d7a57TR> (Accessed 19-03-14).

²¹ The 'direction of travel' approach of the HR Excellence in Research Award requires institutions to set their own action plans, subject to independent review. Progress against action plans are reviewed later externally. Sheffield Hallam's action plan can be found at: www.shu.ac.uk/research/downloads/concordat-responce-action-plan.pdf

²² Full-Time Equivalent – e.g. a member of staff working only two days a week is 0.4 FTE.

²³ www.shu.ac.uk/research/documents/AcademicCPDLeaflet.pdf. (Accessed 01/17/14)

Structural matters regarding development needs analysis, promoting development and recording CPD are being addressed, including the introduction of the RDF Planner²⁴, a researcher development web presence²⁵, an event booking system and Epigeum online courses²⁶.

Conclusion: from baseline to impact

The measures of impact were determined and clearly set out at the start of the project (detailed in the Aims section above).

Ongoing evaluation of the researcher development programme will be undertaken through a Kirkpatrick/return on expectations framework, in particular follow-up investigation probing the influence of development on the thinking and practices of individuals²⁷. The specific heritage and good practices of researcher development evaluation, such as the Rugby Team Impact Framework, will be considered and incorporated where appropriate²⁸. Birdi's TOTADO model is also of interest and will similarly inform the development of evaluation mechanisms and reporting²⁹.

Evaluation of broader research environment-related work will be outcome-focused, with the quality of research outputs, the career satisfaction of researchers and the reputation of the University as an employer of researchers being the three key 'measures that matter'. The first of these can be independently measured through research income and REF assessment, the second through repetition of satisfaction surveys, while the latter is less tangible. It is important to recognise that researcher development is only one of a number of factors relevant to enhancing the research environment, consequently it can only contribute to achieving these institutional objectives in combination with other related endeavours.

²⁴ www.rdfplanner.net (Accessed 19-03-14).

²⁵ <http://shardprogramme.wordpress.com/>.

²⁶ Epigeum are an eLearning company who collaborate with a wide range of universities to produce online skills training courses to support research, and learning and teaching activities. Sheffield Hallam University has been an active collaborator and embeds the Research Skills, Research Integrity, Research Leadership, Statistical Methods for Research and Supervising Doctoral Studies suites into its researcher development programme: www.epigeum.com/ (Accessed 19-03-14).

²⁷ D. L. Kirkpatrick, *Evaluating Training Programs: The Four Levels* (San Francisco, 1994).

²⁸ Bromley, Metcalfe and Park, *The Rugby Team Impact Framework*; T. Bromley, *The Rugby Team Impact Framework: One Year On* (CRAC, 2009) www2.le.ac.uk/departments/gradschool/about/external/publications/one-year-on.pdf; T. Bromley, *The Impact of Researcher Training and Development: Two Years On* (CRAC, 2010) www.vitae.ac.uk/impact-and-evaluation/ieg-development-report-vitae-2010.pdf/@download/file/IEG-Development-Report-Vitae-2010.pdf; T. Bromley and J. Metcalfe, *The Impact Framework 2012: Revisiting the Rugby Team Impact Framework* (CRAC, 2012) www.vitae.ac.uk/vitae-publications/reports/ieg-report-2012.pdf (all Accessed 19-03-14). Register to access

²⁹ K. Birdi, 'The Taxonomy of Training and Development Outcomes (TOTADO): A New Model of Training Evaluation' (2010)

Appendix 1: CROS questions

19. In which areas have you undertaken, or would you like to undertake, training and other continuing professional development (CPD) activities?

19.a. Career management

19.b. Collaboration and teamworking

19.c. Communication and dissemination

19.d. Equality and diversity

19.e. Ethical research conduct

19.f. Knowledge exchange

19.g. Leadership and management

19.h. Personal effectiveness

19.i. Public engagement

19.j. Research impact

19.k. Research skills and techniques

19.l. Supervision of doctoral/masters students

19.m. Teaching or lecturing

23-26. Which of the following have you done, or would you like to do, as part of your current role?

23. Working with others

23.a. Collaborate with colleagues outside the UK

23.b. Collaborate in research with external organisations

23.c. Mentor and support other researchers

23.d. Supervise undergraduate or postgraduate research projects

23.e. Undertake an internship/placement outside higher education research

23.f. Work as part of a cross-disciplinary team

24. Research and financial management

24.a. Manage a budget

24.b. Plan and manage a project

24.c. Write a grant/funding proposal

25. Engagement and impact

25.a. Engage with policymakers and end users

25.b. Knowledge exchange

25.c. Participate in public engagement activities

25.d. Teach or lecture

26. Communication and dissemination

26.a. Present work at a conference orally

26.b. Write up research for publication as first author