

# Evaluation of the "How to be an effective researcher" Programme for Postgraduate Researchers



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## Executive summary

This report outlines the findings from a national evaluation project commissioned by Vitae to establish an evidence base to review the impact of the “How to be an effective researcher” programme for postgraduate researchers. The “How to be effective researcher” programme is a two-day non-residential programme to enhance the effectiveness of postgraduate researchers by building their understanding, skills and confidence in communication, planning and time management, problem solving, leadership and assertiveness. Learning and working styles are explored in the following areas:

- PhD project planning and time management,
- Working effectively with others in the research environment,
- Collaboration and negotiating,
- Culture within research groups, institutions and countries.

Since its development the Effective Researcher programme has been delivered at over 30 HEIs and has reached approximately 3000 postgraduate researchers. This has been extensively supported by Vitae including financially supporting the initial development and piloting of the programme, providing free-to-use materials to HEIs, supporting the training of internal facilitators through taster days and by providing access to a pool of experienced facilitators for the programme.

The aim of this evaluation process was to develop a deeper understanding of the impact of the Effective Researcher programme than the traditional immediate post course evaluation form. Utilising the Rugby Team Impact Framework, the methodology aimed to capture data at levels one to four: reactions; learning; behaviour and outcomes. The methodology aimed to find a balance in the evidence base between qualitative and quantitative data. Two surveys were utilised to obtain detailed data on the performance of the programme from the perspective of the HEIs and the participants. The surveys captured quantitative data on the perceptions of the course and qualitative data at all four levels of the impact framework, and were subjected to rigorous analysis to identify factors which influence the performance of the programme. To develop a more detailed understanding, and to collect further qualitative data surrounding the issues identified from the surveys the following approach was taken:

- Focus groups (24 participants) and structured interviews (5 participants) were held with postgraduate researchers. This allowed the evaluation to ‘drill down’ into responses to develop a richer understanding of the findings.
- Structured interviews were held with a range of HEI stakeholders in the programme including:
  - postgraduate research supervisors,
  - postgraduate skills co-ordinators,
  - senior managers including heads of graduate schools,
  - internal facilitators who had tutored on the programme.
- Structured interviews were held with external facilitators who had delivered the programme within a wide range of HEIs.

### Higher Education Institution Perspective

The institutional survey was completed by 22 HEIs where the programme had been delivered and was typically completed by postgraduate skills co-ordinators. From an institutional perspective, Effective Researcher is seen as a vehicle by which to deliver against the Roberts agenda and support capacity building within the institution. The results of the institutional survey indicated that:

- 95% of respondents indicated that it had made a positive impact in delivering against the Roberts agenda.
- 95% of institutions responded that the support they received from Vitae was good and that the materials for the programme allowed the smooth running of the programme.
- 73% of institutions reported that it had supported them in developing the linkage

between research and training.

- 64% of institutions reported that it had supported them in the development of internal facilitators.

In terms of future intentions, 87% of institutions plan to continue to host and deliver the Effective Researcher programme. However, it should be noted this position is less clear if Roberts funding for generic skills is reduced. Under these circumstances, of the 87% of the institutions who reported that they would continue delivery, 10% indicated that they would discontinue delivery and 42% are unsure of continuing delivery.

In terms of the future development of the programme a number of respondents highlighted that the programme needed to be developed in order to deepen the learning which the programme offers as other opportunities for researcher development have greatly expanded since the initial inception of the Effective Researcher programme.

### **Participant perspective**

The participant survey was fully completed by 316 researchers. The reaction of the participants was very positive with:

- 86% of the respondents agreeing or strongly agreeing that attending Effective Researcher was an effective use of their time. This figure was higher (97%) for those respondents who have recognised a specific training need prior to attending the course compared to those who had a more general interest expressed in the course.
- 88% of respondents would recommend Effective Researcher to other postgraduate researchers.

In terms of developing learning around the core learning objectives, the results are positive with the modal response being agree, when asking if their understanding had improved against the different skills or objectives identified. Overall the programme achieves its aims in achieving the learning outcomes outlined. When asked to report on specific examples of learning from the programme, the most common examples related to time and project management (26%), managing supervisor relationships (14%), collaborations (13%) and working together (13%). Specific examples are highlighted in the report in Table 8. In terms of behavioural change, the responses mirror results at level two for learning, with project and time management, and working effectively with their supervisor being the most powerful elements of the course and it is apparent from examples provided that the programme has enabled participants to implement their learning experience into their practice within the research environment.

Respondents indicated that the course had made an impact on their postgraduate experience with:

- 79% reporting that their research had improved as a result of attending the programme.
- 84% reporting that were more confident as researchers as a result of attending the programme.
- 84% indicated that they had a better understanding of their transferable skills.
- 71% reporting that the relationship with their supervisors had improved as a result of attending the programme.
- 68% reporting the programme had helped them develop a network of researchers.

When asked to identify specific impacts, 25% of impacts which were identified related to improved time and project management. 19% of the impacts related to the opportunities to build networks. Specific examples of the impact of the course are detailed in Table 13. It is worth noting that the reported impact of the programme was not dependent upon the time since the researcher attended, indicating that the programme supports researchers in making sustainable changes.

The level four results demonstrated a clear linkage to the reaction of participants at level one, with those rating their reaction to the course highly also rating the impact of the course highly. Responses in relation to their research improving varied dependent upon demographics. Non-EU overseas researchers reported that the programme had made a greater impact than UK and EU based participants. This is echoed throughout all the impact statements surveyed and is echoed (although less strongly) in overseas researchers' responses to the programme. Evidence also indicates that where the respondent's supervisor has shown an interest in the learning obtained from the programme the impact is greater.

## **Conclusions**

- Effective Researcher has supported institutions in the development of their postgraduate researcher development programmes and has supported HEIs when delivering against the Roberts agenda.
- The programme has been used by over 30 HEIs and the support from Vitae has had a positive impact of the experience of HEIs in delivering this programme. In particular, HEIs found the materials to be effective for delivery of the programme and the Vitae Hubs were effective at supporting delivery of the programme.
- Approximately 3000 researchers have attended Effective Researcher programme.
- Postgraduate researchers' experience of Effective Researcher is very positive, with the majority of researchers who participated in the evaluation process agreeing that the programme improved their knowledge and understanding.
- Effective Researcher makes a significant impact on participants, especially in terms of their project and time management, quality of research, confidence, and improving relationships with their supervisors.
- The results indicate a significant correlation between reaction and impact and therefore the assessment of post course reaction should provide an insight into the effectiveness of training programmes.
- When supervisors show an interest in the participant's learning gained on Effective Researcher the impact that the programme has on the participant is greater.
- The ongoing delivery of Effective Researcher at some institutions will be threatened if Roberts funding is reduced or stopped.
- The evidence of how the Effective Researcher programme adds value to the postgraduate researcher experience is consistent across all levels of the evaluation, and the delivery approach clearly demonstrates value for money when considering the reach this programme has had in the past five years.

## **Recommendations**

- Institutional training programmes have developed substantially at many institutions since the introduction of Effective Researcher. Work is therefore required to update Effective Researcher to reflect the increased level of training researchers will have undertaken prior to attendance.
- The cessation of Roberts funding has implications for the future take up of externally delivered courses and this needs to be taken in account when considering further investment in the development of new programmes or updating existing ones. In particular programmes should be designed so that HEIs have the option to deliver the programme without recourse to external facilitators to ensure sustainable cost effectiveness.
- Vitae should explore how it supports HEIs during a transition to reduced funding to ensure that the benefits which have resulted from programmes such as Effective Researcher are not lost as result of a changed funding environment.
- The impact and value for money of the programme would suggest that Vitae should continue to develop and disseminate researcher training programmes using a model similar to that utilised by the Effective Researcher programme.
- HEIs should consider how they engage supervisors more fully in the training and development process.

## 1.0 Introduction

The postgraduate skills agenda has gained increased profile and investment since the Roberts Review commissioned in 2001. The review was commissioned as part of the UK Government's productivity and innovation strategy and sought to examine the support of science and engineering skills in the UK.

The Roberts Review, *SET for Success*<sup>1</sup>, identified a number of issues within postgraduate education at that time that reduce the ability of the UK to continue conducting world class research and development. One of these issues was that PhDs do not prepare people adequately for careers in academia or business. In particular the training and development of individuals whilst undertaking postgraduate education was raised with reference was to the lack of access to training in interpersonal and communication skills, management and commercial awareness. The Review made a number of recommendations related to the personal and professional development of researchers. For example, the Review recommended that HEFCE and the Research Councils should make all funding related to PhD students conditional on students' training meeting stringent minimum standards and that these should be provided through at least two weeks' dedicated training a year. Additional funding to support such training was made available for this from 2003/04.

Over the past six years, institutions have made significant progress in enhancing the provision of personal and career development opportunities for researchers. However, the Vitae Roberts Policy Forum in January 2009 highlighted that skills development is not yet permanently embedded in most institutions and the potential loss of funding through Roberts will threaten the progress made and could have a wider impact on the research base. Another issue that was raised through the forum was acknowledgement of the importance of building an evidence base for both demonstrating impact and enhancing provision. The Rugby Team Impact Framework (RTIF)<sup>2</sup> was seen as a useful tool for both activities and is already being used by some institutions.

Vitae<sup>3</sup> plays a UK-wide role in supporting, coordinating and championing the personal, professional and career development of doctoral researchers and research staff in higher education institutions and research institutes. In this role, Vitae has supported the development of a number of 'off-the-shelf' training programmes that all higher education institutions (HEIs) can implement fully or tailor to their particular needs, one of which is the "How to be an effective researcher programme"<sup>4</sup> (therein referred to as Effective Researcher), targeting researchers early in the PhD process (i.e. three to twelve months into their research). The programme materials have been made freely available to UK HEIs since September 2008.

The two-day programme provides experiential learning in relation to communication, planning and time management, problem solving, leadership and assertiveness. It supports individuals to improve their self awareness in relation to their learning and working styles. They then consider how this impacts on how they work effectively with others, and establish collaborations. The programme was initially developed by Sara Shinton (Shinton Consulting), Jon Turner (University of Edinburgh) and Janet Wilkinson (Three Times Three Consulting) and the programme was piloted initially through the Scottish UK GRAD Programme Hub during 2005 and 2006. During the development the course was piloted at Edinburgh, Glasgow Caledonian and Strathclyde Universities. Dr Jon Turner comments about the development process:

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1 [http://www.hm-treasury.gov.uk/ent\\_res\\_roberts.htm](http://www.hm-treasury.gov.uk/ent_res_roberts.htm)

2 [http://www.vitae.ac.uk/CMS/files/1.Rugby%20Impact%20Framework\\_33.pdf](http://www.vitae.ac.uk/CMS/files/1.Rugby%20Impact%20Framework_33.pdf)

3 [www.vitae.ac.uk](http://www.vitae.ac.uk)

4 <http://vitae.ac.uk/policy-practice/1404/Effective-researcher-PGR.html>

*"What made the development process for Effective Researchers work from my perspective was the way it was a genuine collaboration between the development team and the universities involved. Rather than the programme being written, piloted and marketed we worked closely with Universities across Scotland and Northern Ireland to develop a programme which really worked. The upfront investment from Vitae supported this. The development of "How to be an effective researcher" was a cost effective method of developing a nationally available skills programme through a collaborative approach. Vitae and the Hub network have played a key role in the dissemination and uptake of Effective Researcher, especially through the free to use and flexible approach that has been taken to support the programmes development for specific HEI contexts."*

The programme has been used by over 30 HEIs across the UK and approximately 3000 participants have attended an Effective Researcher training programme. Vitae and the Vitae Hubs have supported this process through direct support to institutions delivering their initial programme and also through on going provision of resources.

This report covers an evaluation project, undertaken in January to April 2010, to assess the impact and effectiveness of the Effective Researcher programme and includes:

- An overview of the Effective Researcher programme.
- Details of the methodologies utilised in the evaluation.
- Quantitative results obtained through two questionnaires which were developed as part of the evaluation process and detailed interrogation of the data generated by the questionnaires.
- Qualitative results obtained from free text responses in the questionnaire, interviews and focus groups with researchers who have attended Effective Researcher as well as staff who are involved in the delivery of the programme.
- Case studies developed as part of the evaluation process.
- Key findings, conclusions and recommendations.

## 2.0 “How to be an effective researcher” programme overview

The Effective Researcher programme is a two-day non-residential programme which aims to enhance the effectiveness of postgraduate researchers by building their understanding, skills and confidence in following areas, and to relate these to the process and journey of completing a PhD:

- Project and time management,
- Communication skills,
- Working with others,
- Working effectively with my supervisor,
- Working within different cultures,
- Problem solving,
- Collaboration.

The learning approach used is an iterative experiential learning process, based upon Kolb's learning cycle<sup>5</sup>, where the participants develop skills through a number of small group activities, followed by a reflective review, facilitator input and then opportunities to apply the newly developed skills. Activities range from developing an air-powered vehicle through to identifying and developing brief presentations on collaborative research projects based upon the research areas of the participants. Throughout the programme, key inputs are made by facilitators to support the primary learning objectives. For example, there is a specific part of the programme which focuses on project management and, prior to the key activities on this area the participants get a brief overview of core project management techniques. A copy of the programme is included within Appendix 1.

The facilitation of the programme is undertaken by a team of facilitators with a lead facilitator. Dependent upon the activity the reflection may be done in plenary or in smaller groups and typically the programme would be delivered in accommodation with a plenary space and several breakout spaces. Most institutions opted to use some external facilitators (Vitae have played a role in connecting institutions with suitable facilitators) during the initial delivery of the programme and some still rely predominately on external facilitators. Other institutions have developed a pool of internal facilitators and run the programme using solely internal staff. During the initial delivery of the programmes many institutions also received support from the Vitae Hub and in some regions the Hub maintains a set of resources to enable institutions to avoid purchasing all the materials required to deliver the programme.

On a typical programme participant numbers will be between 25 and 40, however, depending upon the recruitment and organisation of the event overall group sizes have ranged from 12 - 80 participants.

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<sup>5</sup> Experiential Learning: Experience as the Source of Learning and Development , D.A. Kolb, Prentice Hall, 1984

### 3.0 Evaluation methodology overview

The aim of the evaluation process was to develop an understanding of the short term learning and experience of the Effective Researcher programme and to understand the longer term impacts on participants who attended the programme. In order to achieve this, the evaluation was conducted in line with the Rugby Team Impact Framework<sup>6</sup> (based upon the work of Kirkpatrick<sup>7</sup>) which outlines five levels of evaluation as shown in Table 1 below.

Level 0 : Foundations	What is the quality of the institutional infrastructure for the provision of training and development?
Level 1 : Reactions	What was the participants' reaction to the training and development opportunity?
Level 2 : Learning	What did the researcher learn or have a better understanding of having participated in the development opportunity?
Level 3 : Behaviour	How did the participant change their behaviour as a result of attending the development opportunity?
Level 4 : Outcomes	How have the outcomes achieved by the participant been enhanced by attending the development opportunity?

Table 1: The Rugby Impact Framework.

Most internal evaluation carried out by HEIs of their generic skills training courses is undertaken immediately at the end of training courses (87% of the institutions surveyed within this evaluation process had used this method as their sole evaluation of Effective Researcher). This approach to evaluation certainly captures Level 1 and depending upon the complexity of the evaluation approach may capture Level 2 and intentions of what participants intend to change at Level 3. Glasgow and Heriot Watt Universities have performed Level 3 and 4 evaluations and these are detailed in the Rugby Team Update 2009<sup>8</sup>. Within this evaluation project we have aimed at capturing data at levels 1 - 4 in order to evaluate the effectiveness (or otherwise) of the Effective Researcher programme.

In order to ensure as large and diverse a sample as possible from a range of HEIs, all the institutions where the programme had been conducted were included in the invitation to be part of the evaluation. Out of 33 HEIs involved in the delivery of the Effective Researchers programme, 22 actively took part in the evaluation process. These institutions covered a wide spectrum both geographically and historically with a range of pre and post 1992 institutions.

In order to inform the evaluation using this framework, three specific methods were utilised in the evaluation process:

- Questionnaires were developed to seek feedback and views from both the participants who had attended the programme and from the HEIs which had delivered the programme. The questionnaires were developed to obtain both quantitative and qualitative data at all four levels of the evaluation framework. 366 postgraduate researchers and 22 HEIs responded to the survey. The data obtained from the surveys was subjected to rigorous statistical analysis to identify trends and significant relationships within the data.
- Focus groups were held at four HEIs (Edinburgh, Cardiff, Warwick and the University of the West of England). These HEIs were selected on the basis of the institutions having held the most Effective Researcher programmes. The selection was made on this basis

<sup>6</sup> [http://www.vitae.ac.uk/CMS/files/1.Rugby%20Impact%20Framework\\_33.pdf](http://www.vitae.ac.uk/CMS/files/1.Rugby%20Impact%20Framework_33.pdf)

<sup>7</sup> "Evaluating Training Programmes", Kirkpatrick and Kirkpatrick, 3rd edition, Berrett-Koehler, 2006

<sup>8</sup> <http://www.vitae.ac.uk/CMS/files/upload/Vitae-%20Policy-Forum-Impact-Framework-Update-January2009.pdf>

to support finding participants for the focus groups as this has been a problem with previous evaluation projects taking this approach. The selection of HEIs also allowed the evaluation to be based on a range of experiences including part-time and full-time students and pre and post 1992 institutions.

- Structured interviews were held with a range of key stakeholders including programme participants (5 interviews), PhD supervisors (4 interviews), HEI coordinating staff (5 interviews), HEI senior managers (3 interviews) and individuals who have been involved in facilitating the programme (5 interviews).

This range of evaluation tools was selected in order to find a balance in the evidence base between qualitative and quantitative data and to provide details for the short case studies included within this report. Further details on the design of the evaluation process and analysis undertaken are given in Appendix 2.

## 4.0 The institutional experience

In exploring the institutional experience of Effective Researcher the evaluation worked with a number of stakeholder groups:

- Coordinating staff within HEIs who play a significant role in the provision of generic skills training for postgraduate researchers including staff at those institutions where Effective Researcher has not been delivered.
- Institutional managers who have a strategic role in the determination of provision of generic skills training for postgraduate researchers.
- PhD supervisors.
- Facilitators who have supported the programme internally within the institution.

### 4.1 Institutional experiences staff with responsibility for researcher development.

#### 4.1.1 Marketing and delivery approaches

##### **Decision making to implement Effective Researcher**

Institutions indicated that the primary mechanisms for deciding to run Effective Researcher were through interactions with Vitae. Fifty two percent of respondents reported that they had been recommended the programme by their local Vitae Hub and 48% of respondents had attended a taster session organised by Vitae. The other primary motivation was that the course content complemented their existing internal programmes. Only 28% of respondents reported that the use of "best practice" was a driver for the implementation. Institutions which chose not to implement Effective Researcher commented that the decision was based upon perceptions that it would be additional to, rather than complementary to, their existing programmes, and that they did not feel the two-day format fitted with the overall approaches being utilised in these institutions of running focused 2-3 hour short courses.

##### **Marketing of Effective Researcher**

Institutions reported that they marketed Effective Researcher in a similar way to other courses with electronic forms of communication being the most common alongside catalogues of courses. An important finding is that over 40% of institutions had not chosen to market the course specifically to supervisors and senior managers.

##### **Delivery of Effective Researcher**

Institutions clearly valued the support they received from Vitae in delivering Effective Researcher, with 95% reporting that the materials they received were sufficient to support running of the programme and 95% agreeing that they had received good support from Vitae as shown in Figure 1. One institution commented:

*"The Vitae Hub has been consistently supportive, providing excellent pre-course administration and ensuring that the appropriate facilities and resources are available. The Hub facilitated the joint delivery by regional institutions by purchasing the materials and supporting the events."*

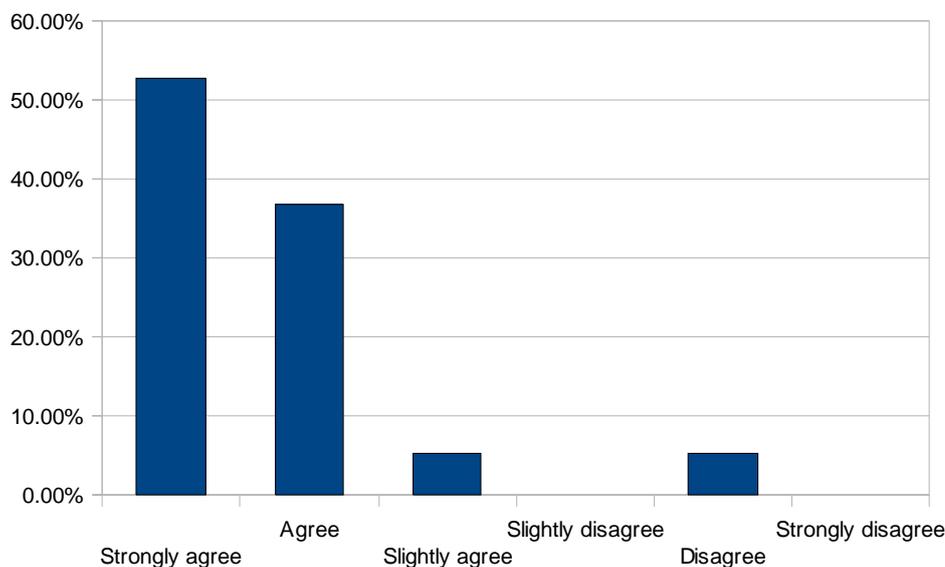


Figure 1: Responses when asked "We received good support from Vitae in delivering our first Effective Researcher".

When asked what further support they would like from Vitae in terms of delivery of Effective Researcher there were a number of specific requests but no clear pattern highlighting particular issues or themes.

Overall, institutions felt that the logistics of the programme were easy to organise. However, some institutions raised issues surrounding finding suitable accommodation for the programme (the programme ideally requires a plenary space and a breakout space for groups). One institution commented: *"It is not easy to book an appropriate venue as the workshop requires a large space and for two consecutive days."* Institutions also commented that being able to see it prior to running it had been very useful, as they were not sure if they would have been able to implement the programme effectively without this opportunity.

Overall, HEIs rate Effective Researcher as being a cost effective mechanism for the delivery of generic skills training, as shown in Figure 2. However, 45% of the respondents only slightly agreed with this. When initially run at HEIs the majority selected to use only external facilitators (68%), with the remainder selecting a mixed approach. A mixed approach was selected on the basis of building internal capacity for the delivery of the programme both in terms of facilitation and also management. However, many of the respondents (50%) noted that they have moved, or are moving towards a model where they are delivering the programme in-house, which will change the perceived cost effectiveness of the programme. It should be noted that from discussions with HEIs it appears that many HEIs do not actively cost internal staff time, and this may have an impact on the long term perceived cost effectiveness of the programme.

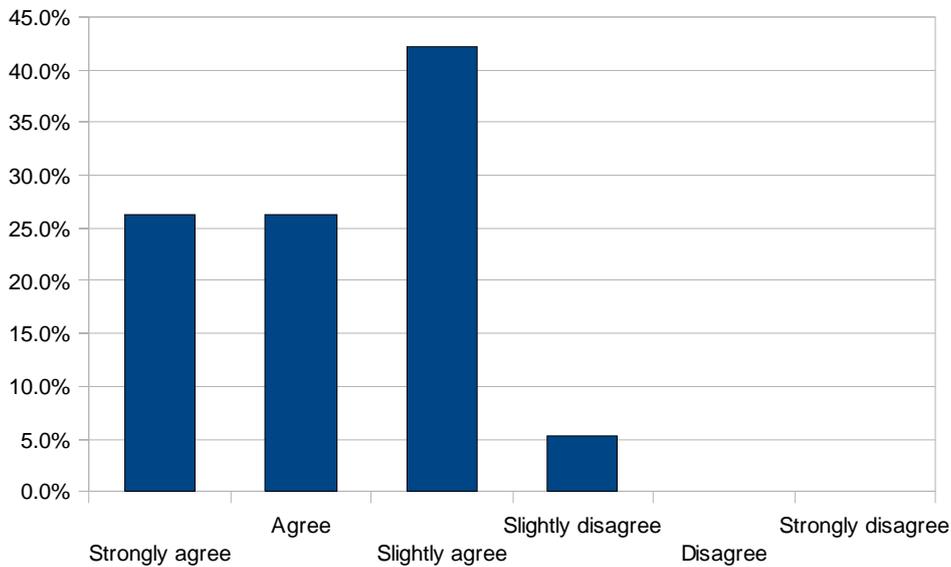


Figure 2: Responses to "Effective Researcher is a cost effective way of delivering generic skills".

#### 4.1.2 Institutional benefits

In evaluating programme benefits, the evaluation team sought to understand what the benefits that could accrue might be and to assess the perception of institutions towards these benefits. The results are shown in Table 2 overleaf.

Table 2: Response to "Delivery of "how to be an effective researcher" has. (N=22)

Delivery of "How to be an effective researcher has":	Strongly agree	Agree	Slightly agree	Slightly disagree	Disagree	Strongly disagree
Supported the institution in delivering against the Robert's agenda.	27.3%	45.5%	22.7%	0.0%	0.0%	4.5%
Enhanced the connection between training delivery and research at the institution.	0.0%	22.7%	50.0%	4.5%	13.6%	9.1%
Helped change the culture and attitudes towards training at the institution.	0.0%	9.1%	50.0%	13.6%	18.2%	9.1%
Supported the development of our internal facilitators.	13.6%	27.3%	22.7%	13.6%	18.2%	4.5%
Helped us develop our relationship with Vitae.	18.2%	50.0%	13.6%	13.6%	0.0%	4.5%
Helped develop relationships with external facilitators and trainers.	27.3%	54.5%	18.2%	0.0%	0.0%	0.0%
Supported us in extending our provision of other courses.	13.6%	4.5%	36.4%	18.2%	18.2%	9.1%

Effective Researcher has clearly made an impact at an institutional level. The survey results show that:

- 95% of institutions reported that it had supported them in delivering against the Roberts agenda.
- 100% of the institutions indicated that the programme had supported them in developing relationships with external facilitators.
- 82% responded that the programme had supported them in developing an enhanced relationship with Vitae.
- 73% of institutions reported that it had supported them in developing the linkage between research and training.
- 64% of institutions reported that it had supported them in the development of internal facilitators.

When asked for examples of the benefits which have resulted from the programme, unlike the student responses (detailed later) there are no clear common themes. Specific examples included:

- *"It helped me develop ideas for other workshops - particularly the interactive design."*
- *"We have developed closer working relationships with other universities in the region."*
- *"Earlier and improved student awareness that the challenges of research degree study are shared, providing them with an alternative perspective and skills to negotiate their research challenges."*
- *"Effective researcher is a useful addition to our optional programme of courses. It also provides the institution and other facilitators with an opportunity to use elements of Effective Researcher on their own - for example collaboration challenge gets used in many different guises on a wide range of programmes."*
- *"It is helping us to develop a cadre of facilitators who are able to deliver this programme."*

#### **4.1.3 Future focus**

When asked about future intentions, institutions were generally positive about continuing their delivery of Effective Researcher, with 87% of institutions planning to continue with the programme. The primary motivation for this has been the positive evaluations that institutions have received of the programme. Where institutions do not plan to provide Effective Researcher in the future, this results from the programme not dovetailing with their current provision well enough.

The position is less clear when asked whether they would continue to run Effective Researcher if funding for generic skills was reduced. Of the 87% of the institutions which said that they plan to continue delivery, 10% responded that they would discontinue delivery, with 42% being unsure of continuing delivery if funding was to be cut. Those that plan to continue delivery commented:

- *"It is seen by senior management as a core part of student training."*
- *"Because we can deliver Effective Researcher to large groups it is cost effective, especially if we use internal facilitators only."*

Whilst those unsure of future delivery commented:

- *"This institution currently relies heavily on Roberts funding to deliver this event."*
- *"We would be able to run Effective Researcher only with internal facilitators. That is assuming that there will be internal facilitators as all of those who currently work on the programme are Roberts funded and if the funding goes then so will the facilitators jobs."*

During the structured interviews it was clear that many institutions felt that, whilst Effective Researcher had filled a training gap when it was written, it now requires updating to reflect the level of training that many participants now undertake in the first year of their PhDs.

*"When we started running the programme it filled a definite need, however with the expansion of the skills development programme here it is possible that participants will have attended 30 hours or more of training prior to attending Effective Researcher and, as a result, for some of them it might be too basic. In the future we'd like to see Effective Researcher ratcheted up a notch or two and deliver a more sophisticated programme. "*

#### **4.1.4 Case studies – the institutional perspective**

##### **Terri Delahunty - Head of Graduate Centre, Cardiff University**



"The Effective Researcher programme gives our postgraduate researchers the chance to stand back from their research and reflect on the progress of their PhDs. It fits the need for a programme of this nature towards the end of the first year of study, and provides the students with an opportunity to develop a network wider than their own research area and to develop specific skills through the activities in the programme. Effective Researcher has also supported this institution in developing collaborations on an equitable footing with other local institutions. The programme is now delivered between the collaborating institutions and does not rely on external facilitators, making it a cost effective way of providing a skills development programme. We have modified the programme at Cardiff by changing the Project Tomorrow activity to fit within a

specific initiative which we run here, where postgraduate researchers can apply for funding to support interdisciplinary research initiatives. This change has enabled the programme to more effectively meet the learning objectives of this activity as well as enabling the activity to be connected to the Cardiff research environment. It would be good to see Effective Researcher developing to keep in touch with the changing skill base of postgraduate researchers. However, it is also important that any changes are properly tested before being rolled out, as our experience with other programmes where this has not happened has not always been positive."

##### **Dr Tracey Stead - Postgraduate Skills Training Coordinator, University of Bath**



"I am responsible for the coordination of the skills development programme for research postgraduates within the University of Bath. We decided to run Effective Researcher as it is a nationally recognised programme which has been thoroughly tested at a number of other universities. It complements our other courses which are more specific, such as writing or presentation skills. It also has the advantage of being able to get a large number of students through in one course which makes it a cost effective way of delivering skills development. Most of the researchers who attend the programme really enjoy it and come away having learnt a lot, and this is reflected in the post-course evaluations and our new reflective evaluations sent out after 3 months. The most common negative point raised in our end of course evaluation is that it offers general skills; with the title of the course some participants

say that they were expecting more specific skills for their own research rather than skills about managing the research process. Also, the experiential and highly interactive nature does not appeal to every student. The evidence which we have for how Effective Researcher has specifically benefited our students is mainly anecdotal from talking to researchers who have

attended. For example, it has certainly increased the awareness of the need to manage their research as a project and how to manage the supervisor relationship. At an institutional level we used Effective Researcher at the start of development of the skills programme, and it was good in providing a cost effective, off the shelf product which helped promote and support the development of a wider generic skills programme. In the future we see Effective Researcher as part of our ongoing programme and would plan to run one programme each year."

**Tim John - Faculty of Humanities and Social Sciences, Head of Teaching and Learning, University of Glamorgan**



"Our staff and students have been involved in Effective Researcher through a collaboration with other local universities. This networking and collaboration has real benefit. We would not have been able to offer a course like this on our own as our cohort of students is too small. Another benefit is that this is a more cost effective way of enabling students to attend courses, as we could not necessarily fund our students to attend courses elsewhere. We see the course as providing students with an opportunity to look at research through a different lens and widen their focus from their own projects. It has helped re-enthuse and motivate

some students when they have become disheartened with their research, has supported researchers with developing networks internally and externally, and has captured some people's imaginations to take different tacks within their research. The university has benefited from the ability to collaborate with other institutions and we feel that the collaborative nature of the programme will lead to longer term benefits which have not yet been realised."

**Professor Daniel O'Leary - Dean of Graduate Studies, University of Wales Institute, Cardiff (UWIC)**



"I am responsible amongst other things for the training programmes made available to research graduate students. UWIC is very committed to developing postgraduate skills and the Effective Researcher has enabled us to widen the range of training we can offer. Additionally, it is an excellent opportunity for our students to train with students from other organisations. We have anecdotal evidence about the benefits: students give feedback that they enjoy it, like that it offers a different environment to normal training and rate it highly in our postgraduate research student survey. At the institutional level, it has been good for developing links

with other institutions for training and developing transferable skills within our staff as facilitators. Effective Researcher provides an event that forges effective collaboration between institutions for training. It expands our capabilities and helps us to manage costs. It was very helpful that Vitae rolled out the Effective Researcher programme to institutions in a way that we could take on board the programmes ourselves."

## 4.2 Internal facilitator benefits

In the evaluation process the impact on HEI staff who had been involved in the facilitation of Effective Researcher was investigated through structured interviews. It was clear that the staff who were interviewed were motivated by supporting the learning of others and had benefited personally from facilitation in a number of ways including:

- An increased awareness of the PhD journey and perceptions of PhD students.
- An opportunity to share knowledge and engage with researchers.
- Enhancement of individual's facilitation skills.
- An opportunity to reflect on their own practice as researchers and implement concepts from Effective Researcher within their own workplace. This had led one of the interviewees to pursue a new career path.
- Enhanced supervision skills as a result of reflecting on their own supervision approaches.

One internal facilitator commented:

*"I value the time I spend on the course as it provides me with space to reflect on my own approach to supervision - this has helped me become much more tolerant of different approaches to research and my supervision has improved as a result."*

#### 4.2.1 Case studies – the facilitator perspective

Elizabeth Mortimer - Careers Adviser, University of Edinburgh



"I got involved in Effective Researcher through my role at the Careers Service. I had an initial training session which was run by Sara Shinton. The training session was very practical and helped me get a feel for what the students were going to be asked to do on the Effective Researcher programme. I have now facilitated three times on the programme and I enjoy it. Facilitating has helped me in my role as a Careers Adviser in a number of ways. It has furthered my understanding of the PhD process and the challenges that researchers face, which informs the work I do with them in a careers setting. It has supported the development of my own facilitation skills. Finally, I have applied some of the concepts of project management taught on Effective Researcher into my own work."

#### Dr Colin Moran – Post Doctoral Researcher, Glasgow University



"I initially got involved in Effective Researcher as there were limited opportunities for me to teach and I saw Effective Researcher as a way of adding in some teaching experience to my CV and support me in pursuing an academic career. Having worked on a couple of programmes I found myself as the lead tutor on the programme. From my perspective I see the programme as offering participants an opportunity to focus their thoughts and to plan their research more effectively. When I did my PhD I finished on time but it was more by luck than by design - supporting people in planning their research can only lead to improvements in the research. I enjoyed being involved in the

programme and I personally got a "feel good factor" out of working on the programme. In terms of my own career I have recently got a job as Project Coordinator for a 5 year research project at Edinburgh Uni. I would never have considered apply for a position like that before running Effective Researcher. It helped open my eyes to the extent of my own skills in project management."

### 4.3 The supervisor experience

During the evaluation process PhD supervisors were interviewed to understand the impact from the supervisors perspective. From these interviews it is clear that supervisors were not always able to isolate changes in behaviour solely to Effective Researcher. One supervisor commented:

*"I get asked to sign off on the courses that my researchers attend but I am not sure what each course covers."*

This is perhaps not surprising as when researchers were asked whether their supervisors had shown an interest in what they had learnt 45% responded negatively. This is perhaps compounded in the 45% of institutions where the course had not marketed the course to supervisors. This suggests a disjoint in the skills development process in that whilst supervisors were generally felt to be supportive of participants attending, they were not seen to be engaged with the learning the participants had obtained. This might limit the ability of researchers to implement the learning subsequent to the course.

Where supervisors were able to identify a connection between Effective Researcher and the performance of the researchers, particular areas they highlighted were:

- Improved management of the supervisor relationship. For example, one supervisor commented that the course had allowed the student to understand the differences between the student and supervisor and had led to a more collaborative working relationship.
- Increased confidence in the skill levels of researchers and more willingness to take responsibility for managing their own project.
- Enhanced integration within the university research community. All the supervisors who were engaged through the evaluation highlighted the importance of this.
- Increased enthusiasm for their research.

One supervisor commented:

*"The researchers who have attended this programme seemed to be more confident and more enthused by research and also for integrating with the university, which is positive. They also appear to be more relaxed talking about their ideas with me and are more open to reflecting on ideas during supervision meetings."*

Where supervisors were not able to specifically link changes to Effective Researcher they were generally positive about the provision of a wider programme of skills development.

*"As a PhD supervisor I see researcher skill development courses as a core part of postgraduate study. I work in a department where research has not always been a core part of our activity, and I have encouraged my PhD student to attend conferences and training workshops. There has been a noticeable difference to the student's performance as a result of these courses."*

### 4.3.1 Case studies – the supervisor perspective

**Dr Christine Purslow - Director of Innovation & Engagement, School of Optometry & Vision Sciences, Cardiff University**



“Whilst I was doing my own PhD I discovered the importance of the relationship between the student and supervisor and when I became a PhD supervisor I was keen to ensure that students were supported in developing good working relationships. Effective Researcher supports this as it helps the participants understand their own approach to work and how this might be different to their supervisor's approach. I think Effective Researcher is the best course for students who are working hard but not being productive as it provides them with a space

to learn about the research process and provides them with key nuggets of information to help them cope. Attending the programme has made a difference to one of my research students. After attending the course the student instigated a conversation about our different working styles and since then we have worked much more effectively with each other. I also facilitate on Effective Researcher and I value the time I spend on the course as it provides me with space to reflect on my own approach to supervision - this has helped me become much more tolerant of different approaches to research and my supervision has improved as a result. I have definitely got more out of Effective Researcher than I have put in to it.”

#### **Research Supervisor, University of Bangor**

“As a PhD supervisor I see researcher skill development courses as a core part of postgraduate study. I work in a department where research has not always been a core part of our activity, and I have encouraged my PhD student to attend conferences and training workshops. There has been a noticeable difference to the student's performance as a result of these courses, though it is difficult to identify exactly which courses have made an impact. However I have noticed that she has developed skills which I did not expect her to have, which has supported her research. For a student in a department without many PhD students the greatest benefit I see from her attending courses, however, is for her to develop a social network of friends and colleagues to support her. The skills development courses have certainly made this impact.”

## 5.0 The postgraduate researcher experience

The demographics of the postgraduate researchers who responded to the Questionnaire are reported in Table 3.

Full time / part time	Full time students Part time students	87% 13%
Stage at which they attended "How to be an effective researcher"	<b>Full time researchers</b> 0-6 months 7 - 12 months 13 - 24 months 25 - 36 months Over 36 months  <b>Part time researchers</b> 0-6 months 7 - 12 months 13 - 24 months 25 - 36 months Over 36 months	35% 37% 23% 4% 1%  17% 37.5% 37.5% 8% 0%
Research area	Arts and humanities Biological sciences Biomedical sciences Physical sciences and engineering Social sciences	15% 13% 12% 30% 30%
Age	20 - 24 25 - 29 30 - 34 35 - 39 Over 40 Prefer not to answer	26% 31% 18% 10% 15% 1%
Previous qualification level	Undergraduate degree Taught masters degree Research masters degree	29% 50% 21%
Origin of the researcher	UK student Overseas - EU Overseas - Non EU Prefer not to answer	51% 14% 34% 1%

Table 3: Demographics of survey respondents (N=366).

*It is worth noting that 71% of the full-time students completed the programme during the first year of their studies. The figure for part-time students is lower at 54% although this is to be expected due to the longer time scale of the part-time PhD process.*

In the demographic data we also explored what training courses the respondents had previously attended. This is shown in Table 4 and indicates that the majority (64%) of respondents had attended some training courses prior to attending Effective Researcher with the two most common areas being project and time management, and communication.

<b>Prior to attending Effective Researcher I had attending training on:</b>	
Project and Time Management	63.0%
Communication	46.4%
Working with others	32.3%
Working more effectively with my supervisor	37.4%
Working within different cultures	8.9%
Problem solving	25.1%
Collaboration	17.9%
Understanding my own skills	31.5%

*Table 4: Prior Attendance at training courses. (N=235)*

Respondents' main motivation for attending the programme was primarily based upon their own understanding of their skills base, followed by choosing the title of the course from a list of training courses and liking the sound of the title. Supervisors at post-1992 universities were more likely to suggest that their researchers attended the programme than supervisors at pre-1992 universities.

<b>My main reason for attending Effective Researcher was:</b>	
I needed to improve my knowledge and skills	36.0%
Suggested by other PhD students	2.8%
Suggested by supervisor	5.9%
Identified through a training needs assessment	2.8%
Selected from postgraduate training course list	23.7%
I liked the idea of it being a 2 day course	2.2%
Course title sounded good	19.0%
Compulsory	7.5%

*Table 5: Reasons for attending "How to be an Effective Researcher". (N=358)*

The reaction of supervisors to attendance of the programme by their researchers was generally positive, with over 90% of respondents reporting that their supervisors were supportive of them attending the programme (Table 6). The figures were less positive when respondents were asked whether their supervisors had shown an interest, in their research with only 55% responding positively to this question.

<b>My supervisors were supportive of me attending Effective Researcher</b>	
Strongly agree	31.3%
Agree	43.0%
Slightly agree	18.4%
Slightly disagree	1.7%
Disagree	2.8%
Strongly disagree	2.8%

Table 6: Supervisors Reaction to attendance. (N=358)

## 5.1 Level 1 - reaction

The reaction of the respondents to the programme was generally positive with 86% of the respondents either strongly agreeing or agreeing when asked whether attending Effective Researcher was a good use of their time (Figure 3).

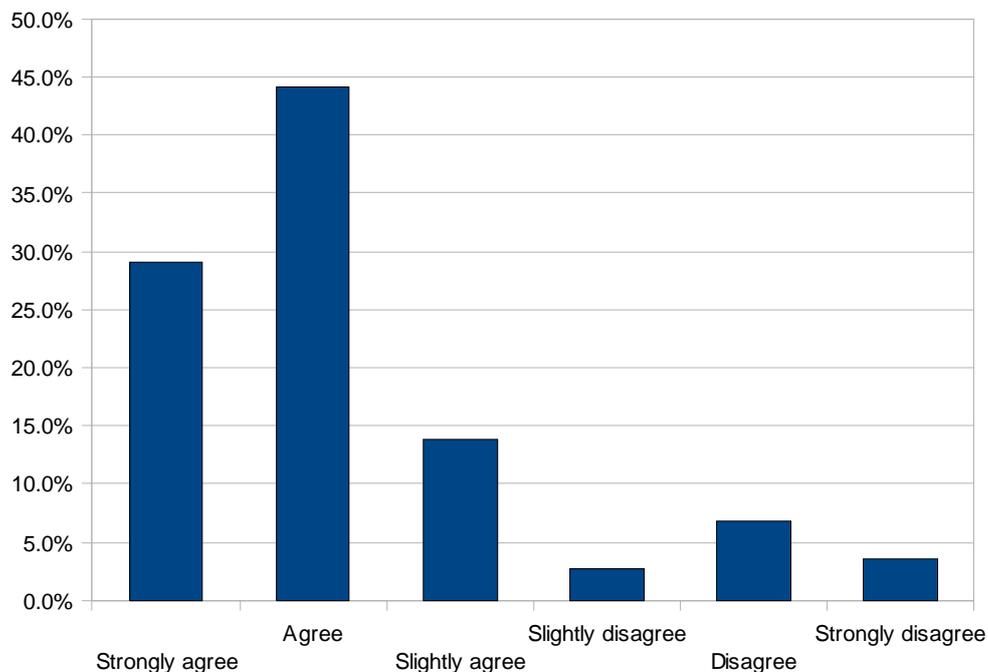


Figure 3: Responses when asked "Looking back on Effective Researcher it was a good use of my time". (N=338)

When this data is explored in more detail there are a number of factors which influenced researchers' reactions to the programme:

- Where the respondents reported that the course was compulsory the number of positive responses dropped to 70%. This is not surprising, but may have implications for the effectiveness of skills training in the wider context as participants are less likely to look favourably on events which are compulsory.
- Over 95% of part-time respondents agreed that the programme had been a good use of their time.
- There was a slightly more positive response in terms of reaction from overseas students to the programme than from UK based students. 92% of EU students and 90% of non-EU students agreed that the programme had been a good use of their time compared

with 82% of UK based students.

- There is no significant difference in reaction towards the programme dependent upon research area, prior levels of qualification, age, type of university (pre/post 1992) or the stage at which the respondent attended the programme.
- Respondents who had actively selected to attend were more likely to agree that the programme had been a good use of their time. 97% of respondents who recognised a training need responded that it was a good use of their time, whilst this figure dropped to 81% for less active selection of the course ("liked the course title", "selected from training course list").
- Respondents who had a negative response to the course commented on the course not being pitched suitably for PhD researchers and that the learning activities took too long to reach a simple learning outcome.

When asked about what the most useful elements of the programme were, there were a number of key themes which emerged:

- Analysis of the individual textual responses showed that 28% of the participants reported that the process of working together and the opportunities to network were the elements of the workshop which they found most useful. A typical response in these areas reported: *"The most useful element of the course was getting to know other PhD students including from other universities."*
- 14% of participants commented specifically on the interactive and participative learning approach. One participant commented: *"I liked the variety within the programme. For example the physical activities meant you had to engage. Mixing the groups up made you talk and keep engaging with different people, but it still felt comfortable. It stretched me without panicking me."*
- Time and project planning was commented on by 16% of participants. A typical response was *"My project looked a mammoth task, but when planned well, it looks manageable."*
- The other areas which were highlighted were in the area of working more effectively with their PhD supervisors and appreciating different working styles (17% of responses).

When asked about the least useful element there was a wide spread of responses. However a number of key themes came out:

- Over 15% of the participants responded that the 'games' (such as Words, Air Vehicle Challenge) in the programme were not useful, and in particular, that the learning points from these games were either too obvious or that the learning point could of been reached in a much shorter period of time. Of these responses, the activities 'Air Vehicle Challenge' and 'Words' had the most negative responses to them. A typical comment from a participant was: *"Some time was wasted with making models - although I could see the point behind it, I think it could be done in less time."*
- Respondents commented that the emphasis on team work did not fit with their experiences of being a postgraduate researcher, and that they would have liked to have had more focus on the present rather than developing skills which may be of use further on in their career. As one participant said: *"There was too much focus and time given to team work. I work either on my own or with my supervisor."* It is, however, worth noting that 87% of the respondents indicated that they had developed their understanding of their ability to work with others.
- Respondents commented that, because of the generic nature of the course and the wide range of students attending, they would have liked to have seen more focus on their discipline area and more specific advice. As one participant commented: *"Any of*

*the activities which seemed to be geared towards team-working and project/resource management were not very useful for me. I think that the overall problem with the course was that in its attempts to be general enough to be useful for students from a wide range of disciplines and applicable to their research, it was too general and abstract to be useful."*

- A number of respondents (especially those who disagreed or strongly disagreed that attending the programme was a good use of time) commented that they did not like the learning approach and found it to be "patronising".
- Some respondents did not feel that the title of the course reflected the learning material. Some respondents reported attending the course expecting to get research specific skills and were disappointed that this is not what they got.

## 5.2 Level 2 - learning

The questionnaire aimed to explore how effective the programme was in terms of developing learning in participants around the core learning objectives of the programme. The results were positive, with the modal response in 'agree' across all areas apart from "working within different cultures" where it is split between the 'agree' and 'slightly agree' category.

	Strongly agree	Agree	Slightly agree	Slightly disagree	Disagree	Strongly disagree
Project and time management	16%	<b>49%</b>	21%	5%	7%	3%
Communication	19%	<b>45%</b>	23%	4%	6%	2%
Working with others	24%	<b>42%</b>	21%	5%	5%	2%
Working more effectively with my supervisor	17%	<b>34%</b>	27%	10%	9%	3%
Working within different cultures	12%	<b>31%</b>	<b>31%</b>	10%	11%	4%
Problem solving	14%	<b>38%</b>	28%	8%	8%	4%
Collaboration	24%	<b>42%</b>	20%	7%	5%	2%

Table 7: By attending Effective Researcher I improved my understanding of the following areas: (N=320)

In terms of the course design this would indicate that overall the programme achieves what it aims to achieve in terms of the learning outcomes. When asked to report on examples of learning from the programme the most common examples related to:

- Time and project management (26% of the participant examples).
- Managing the student supervisor relationship (14% of participant examples).
- Collaboration (13% of participant examples).
- Working together (13% of participant examples).
- Creativity and problem solving (8% of participant examples).

Specific examples given by respondents (obtained from the surveys and focus groups) to illustrate the key learning points are given in Table 8. Note that not all the comments relate to level 2 learning (some are level 3) but are reported here in the context of the level at which the question was asked.

Project and time management	<p><i>"I learnt to break the tasks into subtasks, to organise time and deal with them in a time management constraint."</i></p> <p><i>"I learned about the project management triangle and mind mapping. I constantly use the latter in almost everything I do now."</i></p> <p><i>"I can use a number of tools that are available to manage my project, Gantt chart etc. – and it works!"</i></p>
Communication	<p><i>"I learned that being able to communicate my research in a simple clear way to non-specialists actually helps in negotiating the student-supervisor relationship. My supervisors also appreciate a lack of complexity in explanation."</i></p>
Working with others	<p><i>"I learnt a lot about myself working in a team, something I don't do a lot of in my PhD."</i></p> <p><i>"Although a PhD is your own work, the course highlighted the importance of working with others to ensure that you get the most out of your research."</i></p>
Working more effectively with my supervisor	<p><i>"The important point that during a PhD the student needs to develop independence from their supervisor and needs to be strong enough in themselves to make their own decisions about the direction of their research."</i></p> <p><i>"It sounds simple but by being more communicative and keeping my supervisors in the loop about issues going on - I've already put that to good effect and problems were solved before they became too big."</i></p> <p><i>"This is the part that made the most impact on my current situation. I now understand my supervisor and he knows my trend of thoughts and working process, so we try to complement each other."</i></p>
Working within different cultures	<p><i>"I learned how to listen and seeing the different perspectives of ideas and opinions."</i></p>
Problem solving	<p><i>"That you should take time out to get creativity going and get new ideas; difficult to implement at times, but good to keep in mind."</i></p> <p><i>"Don't get tunnel vision always look at problems from different angles"</i></p>
Collaboration	<p><i>"Meeting with others and working out possible collaborations was an outcome of the training. Although the conferences initially considered have not occurred, it is due to time constraints rather than a lack of desire to collaborate."</i></p> <p><i>"Collaboration sometimes requires a lot of patience!"</i></p> <p><i>"The importance of cross-faculty collaborations."</i></p>
Negative comments	<p><i>"Find out more about courses before attend, so that I don't waste my time, as this course was a waste of my time."</i></p> <p><i>"To find out more about courses before attending; I was hoping to acquire better skills using the net, etc. as my IT skills need improvement."</i></p>

Table 8: Example key learning points and negative comments identified by respondents.

The primary areas that respondents commented on when asked to identify other learning (outside the specified learning objectives) from the programme related to confidence. For example, when asked what else they learnt there were a number of similar comments along the lines of: "Confidence in doing research, dealing with supervisor and research colleagues".

One possible reason for this response is that the opportunity to network and share experiences prevented participants feeling as if they are the only individual facing this particular problem. There were a significant number of comments at all four levels of the evaluation process relating to this benefit.

### 5.3 Level 3 - behavioural change

At level 3 the evaluation again focused around the learning objectives of the programme as it was felt that it was within these areas where individuals were most likely to change their behaviour. The results clearly indicate that the course has made a difference to individuals' behaviour and, when asked whether their experience of Effective Researcher had enabled them to be more effective, the modal answers in all areas was 'agree' as shown in Table 9.

	Strongly agree	Agree	Slightly agree	Slightly disagree	Disagree	Strongly disagree
Project and time management	13%	<b>46%</b>	24%	7%	7%	3%
Communication	15%	<b>42%</b>	26%	7%	8%	3%
Working with others	16%	<b>44%</b>	23%	7%	7%	3%
Working more effectively with my supervisor	16%	<b>32%</b>	29%	10%	9%	4%
Working within different cultures	9%	<b>33%</b>	28%	14%	12%	4%
Problem solving	12%	<b>39%</b>	27%	11%	8%	3%
Collaboration	16%	<b>39%</b>	26%	8%	7%	4%

Table 9: Attending "How to be an effective researcher" enable me to be more effective in the following areas: (N=316)

The responses clearly mirror the results obtained at level 2 and it is clear that programme has enabled respondents to implement the learning within the research environment. Again respondents reported that the project and time management aspects had been the most powerful elements of the course with working within different cultures being the poorest performing element.

When respondents were asked to identify specific changes that they have made since attending the course the areas identified were:

- Project and time management(29%).
- Working more effectively with my supervisor (21%).
- Collaboration (14%).
- Communication (8%).
- Confidence (11%).
- Problem Solving (7%).

Very few respondents commented explicitly on working within different cultures and working within teams. This is an important finding as, whilst the programme has a significant amount of team work embedded within the learning model, few people reported that the skills they developed in this area were the ones that they had implemented in the research environment. It is also worth noting that project and time management were the most implemented skills, even though many people had attended project or time management courses prior to attending Effective Researcher.

Examples given through the evaluation process when respondents were asked what they have

done differently as a result of attending are detailed in Table 10.

Project and time management	<p><i>"I make greater efforts to plan activities/structure research work before rushing in."</i></p> <p><i>"I am always trying to look ahead and plan for contingencies."</i></p> <p><i>"I use 'free-style' methods, such as post-its - to plan and think about my work more."</i></p> <p><i>"I use Gantt charts/to do lists as part of my time management."</i></p> <p><i>"I start the day with an important and engaging task."</i></p>
Communication and collaboration	<p><i>"It has helped me to think about how I explain my research to a lay audience/people from other disciplines."</i></p> <p><i>"I have been involved in projects about making research accessible to the public."</i></p> <p><i>"It was good communication skills practice - I could argue I am more confident with public speaking as a result."</i></p>
Working with others	<p><i>"I worked better with colleagues who have different styles of approach."</i></p> <p><i>"My management of others is more effective as I am leading it much more positively."</i></p>
Working more effectively with my supervisor	<p><i>"I have well organised regular meetings with supervisor and supervisory committee."</i></p> <p><i>"I have been more forthright with my supervisor about the difficulties I have been experiencing, and the impact of his style of feedback."</i></p> <p><i>"I have produced agendas prior to supervision meetings."</i></p>
Problem solving	<p><i>"Having realised I like to focus on detail, I have started thinking more about the bigger picture in my research."</i></p> <p><i>"I started to do free writing before writing any important piece of work."</i></p> <p><i>"I evaluate alternatives in more scientific manner."</i></p> <p><i>"I have been more open to surprises in my research - which actually led to a changed methodology."</i></p>
Collaboration	<p><i>"I have sought out collaborators in my department."</i></p> <p><i>"I have worked with a student from another department."</i></p> <p><i>"I started to communicate a lot with other PhD students in my school and to know more about what they are doing and see if there is a chance of collaborating with each other."</i></p> <p><i>"I have started collaborating with a mathematician for my statistics."</i></p>

Table 10: Behavioural changes identified by survey respondents and focus group respondents.

There were a small number of negative comments relating to what they had done differently since attending the programme (although some respondents who disagreed that the course was not a good use of time entered positive behavioural changes). Of the responses which could be perceived as negative the most common response was to understand more fully what courses entailed before attending. One participant commented: *"I now ignore whenever I was told to do any more training events. I am afraid this experience has utterly turned me off."* This is, however, a rare case as Effective Researcher also would appear to encourage respondents to attend further training courses, as shown in Table 11.

## 5.4 Level 4 - impact

The questionnaire aimed to identify areas where the programme had made a tangible difference to the research experience. As with previous areas, the results of this were positive, as illustrated in Table 12. In all the impact areas identified the majority of the respondents noted a positive impact. The areas where the impact was greatest was in the confidence of the researcher (84% rated this positively), understanding of their transferable skills (83%) and that their research had improved (79%). The area which was perceived as having the least impact was in their ability to complete their PhDs quicker. This is interesting, as time and project management were noted as having the greatest impact from the textual responses. When this is explored in more detail there is evidence in the textual responses that some respondents noted that, as a result of improved time management, the quality of their research had improved.

	Strongly agree	Agree	Slightly agree	Slightly disagree	Disagree	Strongly disagree
My research has improved	9%	<b>39%</b>	31%	11%	7%	3%
I will be able to complete my PhD quicker	6%	21%	<b>34%</b>	19%	15%	6%
I have an improved relationship with my supervisor	9%	<b>30%</b>	32%	13%	10%	6%
I am more confident as a postgraduate researcher	20%	<b>39%</b>	25%	6%	5%	4%
I have developed a network of researchers	11%	<b>29%</b>	28%	16%	11%	4%
I am enjoying my PhD more	12%	29%	<b>32%</b>	15%	7%	4%
I have a better understanding of my transferable skills	19%	<b>37%</b>	27%	7%	7%	3%

Table 11: Impact assessment of attending "How to be an Effective Researcher". (N=316)

The most notable demographic trend within this data was that non-EU overseas researchers scored the course significantly higher than UK and EU based respondents for the perception that their research has improved as a result of attending the course as illustrated in Figure 4. This is echoed throughout all of the impact statements surveyed and also in their overall positive responses to the course. The other demographic trend was that researchers at post-1992 universities reported a greater impact in terms of them developing a network of researchers. There was no significant difference within other demographic groupings including age and subject areas. There was also no change in participant reported impact for respondents who had only recently attended the course compared to respondents who had attended the course several months or years ago. This suggests that the programme supports individuals in making changes soon after the course is completed and that they can sustain the benefits they achieve.

There is a clear linkage between the reaction of respondents at the level 1 evaluation and level 4 impact. Where respondents had rated their reaction to the course highly, they also rated the impact of the course highly.

There is also a clear linkage between the interest a supervisor shows in the learning that a participant has achieved from the programme and the impact that the programme has made for the participant. Where the supervisor has shown an interest the impact is greater. This is an important finding as it suggests that, for training interventions to be effective, more emphasis should be placed on discussing key learnings from programmes and how these might

be implemented in the research environment during supervision meetings. This links to accepted models of training and development, where support in implementing the outcomes of learning interventions is known to provide greater impacts. It is also worth noting that respondents who had been prompted to attend further courses as a result of Effective Researcher indicated a higher level of impact than those who had not attended further courses.

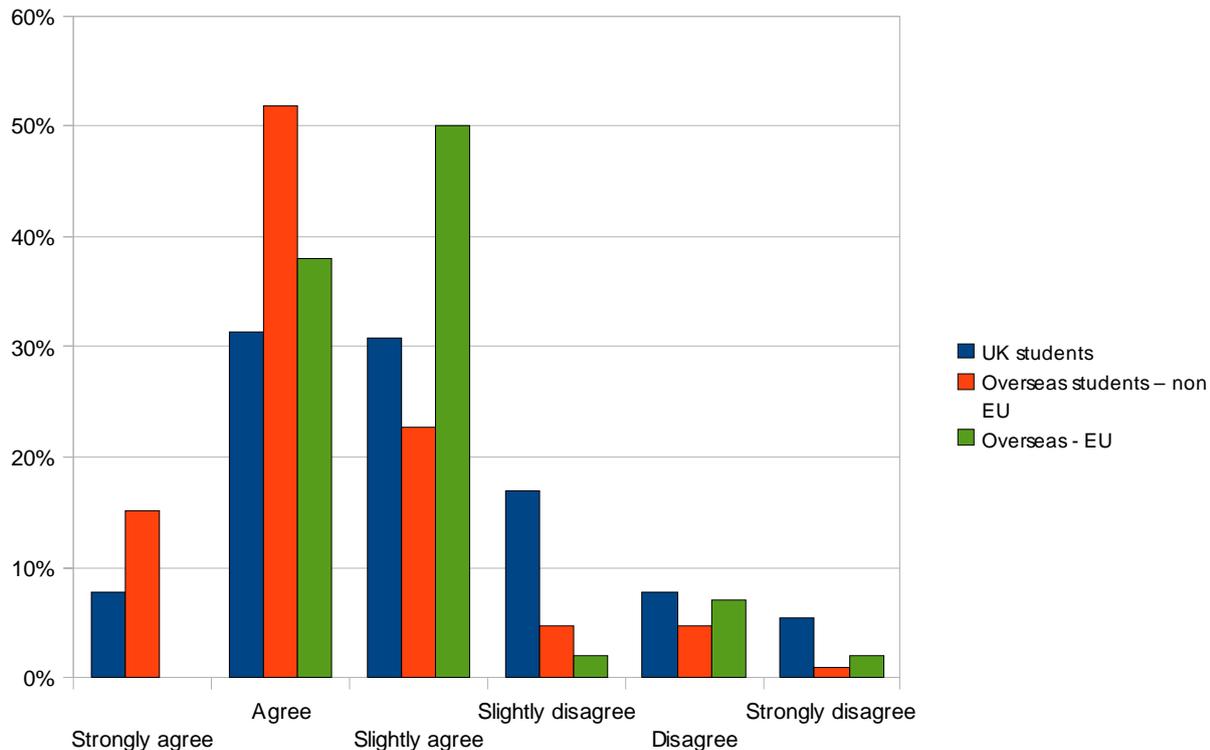


Figure 4: Differences in impact (My research has improved) for UK and overseas researchers

In a similar way to the learning and behavioural changes, respondents were asked to identify specific and tangible impacts that the programme had made on their research experience. When asked for specific examples of impact (level 4) respondents found these more difficult to evidence than when asked for examples of learning (level 2) or behavioural change (level 3). At level 2 (learning) 15% of textual responses were left blank (or noted as none) whilst at level 4 28% of textual responses were left blank. Textual analysis of the responses showed that there were a number of areas where respondents more frequently provided examples. These areas were:

- Improved time management and project planning (25% of positive impacts).
- Development of networks of support and for collaborations (19% of positive impacts).
- Improved confidence as researcher (11% of positive impacts).
- Improved outlook (i.e. not just me who struggles with my PhD) and motivation (11% of positive impacts).
- Improved relationships with their PhD supervisors (9%).

It should be noted that respondents who had reacted negatively to the course (for example by responding that it had not been a good use of their time) either reported impact examples or did not respond to this question.

Specific examples that respondents noted are given in Table 13.

<p>Time management and project planning</p>	<p><i>"Planning has greatly improved the overall quality of my research."</i></p> <p><i>"I am now more efficient with my time and designing experiments better."</i></p> <p><i>"I have adopted one of the planning strategies learned on the course."</i></p> <p><i>"I am able to use my time more effectively which has a positive impact on my family life."</i></p> <p><i>"Enabled me to set up and finish projects (papers, reports) more efficiently."</i></p> <p><i>"I am better able to plan my work and feel successes by reaching targets."</i></p> <p><i>"I have made a more defined time line and am following it."</i></p> <p><i>"I am spending more time in the lab as I am being more productive in my non-lab time due to better planning."</i></p> <p><i>"Having a proper plan with a schedule and milestones has made it easier to communicate with my supervisors."</i></p>
<p>Development of networks and collaborations</p>	<p><i>"I started to voluntarily share my knowledge with others."</i></p> <p><i>"It's easier to communicate with others and build a team, which makes work more enjoyable."</i></p> <p><i>"It has encouraged me to collaborate with researchers from other disciplines."</i></p> <p><i>"I met researchers that I am now friends with who have supplied me with invaluable information."</i></p> <p><i>"I feel I can ask for help to almost anyone in case I need it."</i></p> <p><i>"Contacts made have provided useful input to thesis."</i></p>
<p>Improved confidence</p>	<p><i>"It has increased my confidence in terms of ensuring I have the best experience possible - now that I realise what transferable skills I can grow. I have made a great effort to get to conferences, workshops and seminars and present my research and collaborate with other researchers for publications."</i></p> <p><i>"I feel more confident when talking to experts in my field of research worldwide."</i></p> <p><i>"It has boosted my self confidence and helps me to feel that I can actually complete this!"</i></p> <p><i>"I become more confident as a researcher and I am enjoying my PhD more."</i></p> <p><i>"I have a more positive attitude to my research, I realised that others are in the same boat with similar problems."</i></p> <p><i>"More confidence to explain current research to others especially people from difference background."</i></p>
<p>Improved outlook and motivation</p>	<p><i>"My attitude has changed and I've become more professional and grown-up."</i></p> <p><i>"I became more enthusiastic in my PhD research."</i></p> <p><i>"It was a good way to meet other PhD students from different disciplines and to hear that you are not the only one facing some problems."</i></p> <p><i>"I no longer feel alone but part of a wider learning environment."</i></p> <p><i>"As a result of meeting other people having difficulties with their PhD I didn't feel on my own."</i></p>

<p>Improved relationships with their PhD supervisors</p>	<p><i>"My relationship with my supervisor have improved, which is a very good thing that means we communicate more."</i></p> <p><i>"My relationship with my supervisors is much stronger; we are able to communicate more effectively and are more understanding towards each other."</i></p> <p><i>"Before attending this course I was more likely to yield to my supervisor's vision of where my PhD should be going. But now I take a more active role."</i></p> <p><i>"My meetings with my supervisor were more fruitful because I structured them according to the knowledge gained from the course."</i></p> <p><i>"It was a start for me to know that I needed to change my supervisor and I did which affected my research positively."</i></p>
<p>Other impacts</p>	<p><i>"Enabled me to communicate my research ideas effectively and concisely."</i></p> <p><i>"When a problem arises I have to share with other group members to solve it easier."</i></p> <p><i>"I am more aware of the fact, that the PhD is MY project and I am the driving force."</i></p> <p><i>"Highlighted some transferable skills and personality traits/learning &amp; working styles, which have meant I've sought to gain more experience than just through my research."</i></p> <p><i>"I feel more confident as I am gaining lots of skills through my PhD project. The course didn't teach me anything, but it did show me what I already know and am good at."</i></p>

Table 12: Impacts identified by respondents in the focus groups and questionnaire.

## 5.5 Case studies – the researcher perspective.

### Rachel Bolton King - Nottingham Trent University



"I found the "How to be an Effective Researcher" programme very good, very enjoyable and interactive. Before I went, I didn't know what I would get out of it, as I already plan well and organise my time well, but it was actually really useful for different reasons and my perception of the course wasn't really what it was about. It was good to get to know all the researchers in my year and share experiences and realise that I was not alone in feeling the way I did about my research. It was helpful to break the PhD journey down, get different perspectives on ways to tackle problems,

and go through some of the project management tools. I particularly liked the way that the learning was through activities rather than just listening to lectures for the day, which allowed us to gain the learning through experiences. Since attending Effective Researcher I feel more confident in communicating with others in my field, particularly regarding making contact with experts outside my university, and talking to other researchers about the challenges in my research. I am also more confident in managing my supervisor and getting the support which I need from him. It has also made me think about carrying on in academia and what role I would like to undertake, and as a result of this I undertook a course on learning and teaching in higher education as I could see this benefiting my career."

#### *PhD student*

"I have attended a number of postgraduate development programmes and see the benefit of these in terms of my career and demonstrating my personal development to future employers. Some of these courses have been very good, however Effective Researcher does not fall into this category. Whilst I enjoyed the opportunity to discuss what makes an Effective Researcher, meet other students and share the issues which I was facing in my PhD, this is as far as the learning from the programme went. It felt like there were a lot of games on the programme and that these did not always link well enough to the learning points to be worth my time and effort. For example the activity utilising Lego (Words) was simply ridiculous and did not link well to the learning points, and the analogy was very weak and clashed with my experiences of research. What I would have liked to have seen was a programme which took into account better the life skills which postgraduate researchers have, and for the activities and learning points to be more focused in the research context with more detail and specific content."

### Elena Golovushkina – Glasgow Caledonian University



"I attended the Effective Researcher when I was two months into my research programme. I found that overall my experience of the course was positive providing an overview of the skills required to be successful in research. Specific skills and tools I have used since include Gantt charts and mind maps. I also saw the value in 'Collaboration Challenge' in thinking about how research is communicated to a variety of audiences and how this relates to public engagement. I felt the experience was a good combination of theory and practice and allowed

opportunities for action learning and to practice presentation skills. For overseas students understanding the research process and culture, and clarifying the researcher's role, is really valuable as this can be very different in different countries. In addition to my skills development I enjoyed the opportunity to meet researchers from other disciplines and felt reassured that we were experiencing similar concerns and challenges.

One of the main ways in which my confidence improved as a result was through the realisation that this was *my* project and that I needed to take ownership of it. Whilst I need to take into account opinions of other stakeholders it is critical that I take a leadership role in driving the project. This means I need to take the initiative in terms of setting up and managing meetings with my supervisor, utilising the opportunity to ask questions, outline my ideas and plans and report on progress. I would recommend Effective Researcher to other postgraduates who are in the first six months of their research."

**Corinne Bromfield - Edinburgh University**

"I'm six months into a four year PhD and attended the Effective Researcher course as I thought it might help me with some issues I was experiencing around bringing my research project together. The Effective Researcher course gave me new ways of thinking about things, particularly about how to drill down and ask more and more questions. I don't think I learnt any new factual knowledge, but it showed me how to use things that I had already come across. I felt that a lot was crammed in and it would have been good to have more time on the course to reflect on how we would use them in the real world. After the course, I went back to the lab and on the whiteboard worked out what the two halves of my research project are really addressing and where they link. It helped me think through the whole project design and come up with a proper aim so I feel it is now a whole thesis. The biggest benefit this brings is that it is now in my mind as a more cohesive project and I can identify what really needs doing. Going on the Effective Researcher course meant that I reached this stage very much earlier in my PhD which is making a difference to the way I am doing my research. Instead of approach my PhD as separate experiments to get data, I am thinking more about how to answer the research question by considering the results and how to re-design the next experiment."

## 6.0 External facilitator experience

In addition to those internal staff who had been involved in the facilitation of Effective Researcher, external facilitators were also consulted who have experienced delivering the programme in a variety of HEIs. These facilitators have a wealth of experience in the design and delivery of postgraduate skills training and so bring a different perspective to this evaluation. For example, one facilitator has delivered this programme 50-60 times since 2005.

A key benefit articulated by this audience was the importance for the participants in taking time out to examine and reflect upon the PhD *process*, in terms of what is involved and the behaviours and attributes required. It enables participants to consider, develop and articulate their skill base and see how this can contribute to how they approach their research.

Another aspect of the programme that was highlighted in terms of impact on participants is the exploration of different approaches to information gathering and how people manage their work. This may, in part, explain some of the participants' view that the relationship with their supervisors had improved, or that they felt more confident as it enabled understanding of different approaches to work that are equally valid.

In terms of course design the afternoon of day 1 was flagged as the weakest part of the programme (containing 'Ecohouse' and 'Project Tomorrow') which could be revised. Overall it was felt that the framework of Effective Researcher provides enough guidance to inform what topics to cover and mechanisms by which to do this, but enables some flexibility about how that is done in practice. The contextualising of activities was felt, by external facilitators to be very important in ensuring that the learning outcomes of the programme are linked clearly to the activities so that participants do not feel like they are doing but not learning.

There is evidence from external facilitators that the delivery of Effective Researcher has supported them in enhancing the scope of the provision that they supply to HEIs. For example:

- Janet Wilkinson (Three Times Three Consulting) has developed and Effective Supervisor courses in collaboration with Glasgow Caledonian University. This course runs over four 1/2 day workshops and utilises similar activities and content as Effective Researcher.
- Sara Shinton (Shinton Consulting) has facilitated workshops relating to interdisciplinary research as a result of contacts made whilst delivering Effective Researcher.
- Caron King (Kingswood Plus) has developed workshops and programmes at Manchester and Nottingham Trent Universities as a result of relationships developed through the delivery of Effective Researcher.

## 7.0 Conclusions and recommendations.

### 7.1 Conclusions

#### Higher education institution perspective

- Effective Researcher is an off-the-shelf product that offers a cost effective method for delivering skills development to early stage researchers. The materials, resources and access to facilitators provided by Vitae have supported HEIs in implementing the programme and led to the programme being utilised by over 30 HEIs and reaching approximately 3000 participants. 95% of HEIs who participated in the evaluation programme, indicated that the support they had received from Vitae had supported the implementation of Effective Researcher.
- Effective Researcher has supported institutions in the development of their postgraduate researcher development programmes and has supported HEIs when delivering against the Roberts agenda.
- Delivery of the Effective Researcher programme is an effective means of developing relationships with external facilitators and Vitae.
- The future delivery of the Effective Researcher programme at many institutions will depend upon the ongoing funding of researcher development.

#### Postgraduate Researcher Perspective

- The experience of Effective Researcher for the majority of researchers is very positive, and whilst this drops slightly for those researchers where it is compulsory it is still a positive experience. This is particularly the case for part time and overseas postgraduate researchers.
- The programme clearly delivers against the learning objectives, with the majority of participants agreeing that the programme has improved their knowledge and understanding.
- The course makes a significant impact on participants, especially relating to their time management, confidence and improving their relationships with their supervisors. 79% of respondents indicated that their research had improved as a result of attending the programme.
- There is a significant correlation between participants' reactions to the programme and the learning and impact which they obtain from the programme.
- There is a significant relationship between the motivation for attending Effective Researcher and the impact of the programme. Where participants have attended the programme with an identified training requirement the programme makes a significantly greater impact.
- There is a significant relationship between the interest that a supervisor shows in the learning that a participant gains on a training programme and the impact that the programme has on an individual. This should be considered in the process of supervision and the approach of skills coordinators to publicising and marketing the courses which they offer.
- A key element of the Effective Researcher programme relates to teamwork which does not reflect the research experience of some postgraduates who work very independently on their research. Whilst there is a perceived benefit from this learning approach in terms of networking and sharing of experiences, less emphasis on this element might be appropriate for the researchers at which Effective Researcher is targeted.

## 7.2 Recommendations

- There is a need for Effective Researcher to be updated. In doing this the general consensus from the evaluation is that the programme needs to more fully reflect the level of training that participants have attended prior to Effective Researcher. In updating the programme the emphasis should move away from exploring team work and should focus more directly on the research process and key research relationships. The afternoon of day on ('Words' and 'Project Tomorrow') are the areas where revision would make the most significant impact.
- That in any redevelopment the title and/or marketing materials could more clearly emphasise the content of the course to ensure that participants do not arrive with unclear or incorrect expectations of the programme.
- Skills development coordinators within HEIs should work more closely with supervisors to ensure that supervisors engage with the learning which participants gain from workshops. This will support researchers in embedding the learning which they obtain from skills development programmes. This part of the training cycle appears to be a weak link in the delivery of impact within this programme.
- HEIs should utilise a range of evaluation methodologies to demonstrate the impact their skills development programmes make. From the experiences of this evaluation, a well designed online survey, with both quantitative and qualitative fields, combined with interviews offers the most cost effective method of evaluating the success or otherwise of a skills development programme.
- That methodologies are developed to track the impact of generic skills development past the end of the PhD process. This evaluation has been limited by access to post PhD participants, and for any future evaluations the ability to engage with this population would significantly enhance the evidence base.

## Appendix 1: Effective researcher programme

### Day 1

Time	Area of activity
0915	Arrival of participants and refreshments
0930	Registration
0945	<b>Introduction to the programme</b>
1000	<b>Getting to know each other</b>
1020	<b>Establishing common ground</b>
1045	<b>First team project task (problem solving)</b>
1155	<b>Project management 1: Tuning into your PhD</b>
1225	Lunch
1310	<b>Second team project task (resource management)</b>
1355	<b>Project management 2: Planning your PhD</b>
1425	<b>Third team project task (applying planning tools)</b> Including refreshments
1600	<b>Working effectively with others: project approaches</b>
1645	<b>Review and close of day 1</b>

### Day 2

Time	Area of activity
0915	Arrival and refreshments
0930	<b>Introduction to day 2</b>
0935	<b>Creativity session</b>
0950	<b>First working effectively with others task (research collaboration)</b> including refreshment break
1155	<b>Working effectively with others: perspectives</b>
1225	Lunch
1315	<b>Second working effectively with others task (respecting and recognising cultural difference)</b>
1415	Refreshment break
1430	<b>Third working effectively with others (managing professional relationships)</b>
1600	<b>Making the most of my PhD</b>
1630	<b>Review and close of the programme</b>

## Appendix 2: Evaluation methodology details

### A2.1 Participant questionnaire

The participant questionnaire was designed to capture data at all four levels of the Rugby Impact Framework as well as relevant demographic information. The full questionnaire is included in Appendix 3. Below, we briefly discuss our approach to developing the questionnaire and outline how the questions relate to the Rugby Team Impact Framework.

Throughout the questionnaire a six point Likert scale was utilised to gauge reaction, with descriptors chosen to reflect the exact nature of a question. A six point scale was chosen so as to enforce a choice of view and not offer a neutral response. In order to collect qualitative data from the survey, participants were also asked to provide textual responses to a number of questions, primarily focused on identifying examples to support the quantitative data. Where textual responses were obtained, these were analysed to identify the most common themes which are reported in the results section of this report along with examples of the responses.

#### Demographic information

In order to effectively evaluate the impact of the programme the collection of a wide range of demographic information allowed more targeted examination of the effectiveness of the programme for differing participant groups. As the programme is primarily aimed at individuals at the start of their research projects the evaluation focused on collecting data regarding the participants' past experiences of research as well as age, cultural background, and prior attendance at other training courses, as these are aspects that are likely to shape their interaction with the programme.

#### Level 1: Reaction

Whilst the aim of the evaluation project was to evaluate beyond the reaction of the participants to the programme, measurement of this was included so that it was possible to explore differences in the reaction to the programme from the diverse participant groups included in the evaluation. It also allowed the questionnaire to begin with relatively simple and easy to answer questions. Within this section the questionnaire also explored the perception that researchers have of their respective supervisors' attitudes towards the programme.

#### Level 2: Learning/Level 3: Behaviour

To assess participants' learning and behavioural changes resulting from their experiences of the Effective Researcher programme, questions focused on the specified learning outcomes of the programme. These were summarised as:

- Project and time management,
- Communication skills,
- Working with others,
- Working effectively with my supervisor,
- Working within different cultures,
- Problem solving,
- Collaboration.

For both level 2 and level 3 participants were also asked to provide textual responses giving specific examples of learning and behavioural changes.

#### *Level 4: Impact*

This is undoubtedly the most difficult level at which to assess the effectiveness of a specific programme, as it is perhaps unrealistic to expect significant impacts from a two day training programme, or for participants to be able to directly relate changes in their learning or

behaviour to this specific intervention. In order to identify the impacts which could result from the programme the evaluation team considered the programme based upon their experience of postgraduate development and identified a number of possible resulting outcomes:

- Enhanced research quality,
- Increased completion rates within the allocated time-scale for the PhD,
- Improved working relationships with the PhD supervisors,
- Increased confidence,
- The development of a network,
- Enjoyment of the PhD process,
- Enhanced understanding of their individual transferable skills.

These were assessed subjectively by asking the researchers to assess whether there had been any changes as a result of attending the programme. The survey also requested specific examples of changes as a result of the programme to understand more fully what changes the participants had made.

Whilst these outcomes do not all relate specifically to impact (for example the development of networks), it was felt these were all plausible and realistic outcomes researchers might be able to identify and articulate within the evaluation framework. Furthermore, the evaluation only included participants who were still completing their research as contact information was not readily available for researchers who have moved into employment or further study. It would be recommended that to truly evaluate the effectiveness of programmes such as Effective Researchers evidence should be captured from participants who have completed their studies.

### **Survey distribution**

The survey was distributed online using Survey Monkey<sup>9</sup>. In order to avoid data protection issues the link to the survey was distributed via the supporting institutions. As such, it is difficult to identify the exact response rate to the survey. The institutions which contributed to the programme estimated that approximately 3000 participants overall have attended the Effective Researcher programme. Of these, 366 postgraduate researchers from 35 institutions took part in the evaluation process through the questionnaire. This is greater than the number of HEIs who have delivered Effective Researcher, but reflects those programmes that have been coordinated through the Vitae Hub network and would therefore attract participants from further HEIs.

Of the 366 researchers who started the questionnaire, 318 completed it. The most common point at which the researchers chose not to proceed with the questionnaire was when they were asked for specific examples of learning or behavioural change. With a response of 366 participants this allows the estimation of the response rate at 12%. The calculation of a response rate is, however, complicated by the time-scale over which the programme has been running (since 2005) meaning that some of the individuals who have participated in the programme will have completed their PhD studies and will no longer be contactable by their institution.

### **Data analysis**

Statistical analysis was performed using Minitab v14 and Statistical v5.1 on data imported from the Excel data sets provided by Survey Monkey. Relationships among variables were investigated using cross-tabulations and Maximum Likelihood Chi Square analyses. Where relevant, scales such as 'Excellent' to 'Very poor' (five levels), or 'Strongly agree' to 'Strongly disagree' (six levels) were converted into numerical scales where negative responses were low ('Very poor' or 'Strongly disagree' = 1) and positive responses were high ('Excellent' = 5, or 'Strongly agree' = 6). For multi-part questions, such as q19 and q22 investigating the learning

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<sup>9</sup> [www.surveymonkey.com](http://www.surveymonkey.com)

and effectiveness in seven subject areas, and q25 investigating the impact in seven areas relevant to PhD research, the average score per person was calculated. Median and mode averages were calculated, as there is a non-continuous relationship between levels of the score (e.g. the distance between 'Strongly disagree' and 'Disagree' may be different to that between 'Disagree' and 'Slightly disagree') and therefore means are not a relevant measure. The results for both mode and median followed a similar pattern, so only results for medians have been reported here. Relationships among scaled variables were investigated using Spearman Rank correlations and differences among groups' median scale by Kruskal-Wallis non-parametric ANOVA by ranks. Where a significant correlation is reported the significance of this correlation will be at least  $p < 0.05$ . Full details of the statistical analysis are available on request.

## **A2.2 Institutional survey**

To assess the impact of the programme on HEIs a survey was developed and distributed to all the institutions who had coordinated an Effective Researcher programme. The survey was typically completed by a postgraduate skills coordinator (or similar role). Of the 33 institutions which were contacted as part of the evaluation, 22 completed the questionnaire. What the evaluation set to find out from this stakeholder group's perspective was:

- Understanding the motivation for delivering a programme such as Effective Researcher.
- Understanding the role which Vitae played in supporting the delivery within institutions.
- Understanding the marketing of the programme within the institution and challenges associated with this.
- Evaluating the HEI's perspective of Effective Researchers.
- the benefits which the institution gained from running a programme such as Effective Researcher.
- Future intentions regarding Effective Researcher.

When designing the institutional survey, the evaluation team again postulated what the potential impacts might be for an institution of running a programme of this nature and concluded that potential impacts were:

- Supporting the institution in delivering against the Roberts agenda.
- Enhanced connection between training delivery and research.
- Cultural changes towards skills development.
- Supporting the capacity of the institution to deliver training through developing internal facilitators.
- Enhanced relationships with Vitae.
- Development of relationships with external facilitators.
- Supporting the extension of skills provision.

## **A2.3 Focus groups**

Focus groups were run at four institutions (Edinburgh, Cardiff, University of the West of England and Warwick University) and were facilitated by individuals who are experienced in working with postgraduate researchers. Focus groups were advertised by each of the institutions involved, and postgraduates were offered a small financial incentive to attend the focus groups. Altogether, 24 people attended the focus groups.

The focus groups were facilitated around a common structure which, similar to the survey, was framed around the Rugby Impact Framework. The evaluation team's experience of undertaking the focus groups was that, whilst participants were willing to share what they thought about the programme (both the positive and negatives), many of the participants had not reflected prior to attending the focus group, and with limited timeframes many of the outputs of the focus group were not significantly deeper or more illuminating than those raised through the survey process. For this reason the outputs of the focus group have been included as illustrative examples in the analysis of the questionnaire results.

## **A2.4 Structured interviews**

Structured interviews were held to explore attitudes and opinions in greater depth, and also to provide case studies for inclusion in this report. In order to provide a balanced review of the students' experiences, participants for the interviews were chosen in line with the responses from the questionnaire. Therefore, the participant interviews were carried out with three people who had reported a positive response to the course, one who had reported an average response and one who reported a negative response.

At an institutional level we interviewed the stakeholders involved in Effective Researcher:

- Coordinating staff (5 interviews),
- Senior managers (3 interviews),
- Internal facilitators (3 interviews),
- Supervisors (4 interviews).

It should be noted that it was difficult to identify supervisors whose students had attended the programme, and when students were asked to support this process few were keen to suggest that their supervisor would be willing to be interviewed. The evaluation team also sought opinions from HEIs where Effective Researcher had not been utilised, to gain a fuller understanding of the decision making process regarding adoption of the programme. Interviews with supervisors played a role in assessing the impact of the programme as this allowed some limited validation of the self reported impacts noted in the survey, focus groups and interviews.

### Appendix 3: Participant questionnaire and results

1. At which Higher Education Institution are you studying? (N=366)

	Response Percent
University of Aberdeen	0.3%
Bangor University	4.4%
University of Bath	3.6%
Birmingham City University	0.3%
Bournemouth University	0.3%
University of Bristol	1.4%
University of Cambridge	1.1%
Cardiff University	10.4%
University of Central Lancashire	0.3%
University of Cumbria	0.3%
University of Dundee	1.4%
University of East London	1.1%
Edge Hill University	0.5%
University of Edinburgh	13.1%
University of Glamorgan	4.1%
University of Glasgow	4.9%
Glasgow Caledonian University	1.1%
University of Huddersfield	3.0%
UHI	1.6%
University of Leeds	3.3%
Loughborough University	14.5%
Manchester Metropolitan University	0.3%
NERC for Ecology and Hydrology	1.4%
University of Northampton	0.8%
Northumbria University, Newcastle upon Tyne	3.6%
University of Nottingham	1.9%
Nottingham Trent University	5.5%
The Open University	0.3%
Queen's University Belfast	0.3%
University of Salford	0.3%
University of Surrey	2.5%
University of Ulster	5.5%
University of Wales	2.7%
University of Warwick	0.5%
University of Westminster	0.3%
University of the West of England	3.6%

2. Are you studying full time or part time? (N=366)

	Response Percent
Full time	86.9%
Part time	13.1%

3. At what stage in your PhD did you attend "How to be an effective researcher"? (N=366)

	<b>Response Percent</b>
0 - 6 months	32.2%
7 - 12 months	37.4%
13 - 24 months	25.1%
25 - 36 months	4.4%
over 36 months	0.8%

4. How far through your PhD studies are you currently? (N=366)

	<b>Response Percent</b>
0 - 6 months	17.5%
7 - 12 months	7.4%
13 - 24 months	39.9%
25 - 36 months	28.1%
over 36 months	7.1%

5. Which category best describes your research area? (N=366)

	<b>Response Percent</b>
Arts and humanities	15.0%
Biological sciences	13.1%
Biomedical sciences	11.5%
Physical sciences and engineering	30.1%
Social sciences	30.3%

6. How old were you when you attended "How to be an effective researcher"? (N=366)

	<b>Response Percent</b>
20 - 24	25.7%
25 - 29	31.4%
30 - 34	18.0%
35 - 39	9.6%
Over 40	14.8%
Prefer not to say	0.5%

7. Before starting your PhD what was your previous highest qualification? (N=366)

	<b>Response Percent</b>
Undergraduate degree	29.0%
Taught Masters degree	49.5%
Research Masters degree	21.6%

8. Are you an overseas student? (N=366)

	<b>Response Percent</b>
No	51.1%
Yes - EU	13.9%
Yes - Non EU	34.2%
Prefer not to say	0.8%

9. What was your main reason for attending "How to be an effective researcher"? (please select only one) (N=358)

	<b>Response Percent</b>
I needed to improve my knowledge and skills	36.0%
Suggested by other PhD students	2.8%
Suggested by supervisor	5.9%
Identified through a training needs assessment	2.8%
Selected from postgraduate training course list	23.7%
I liked the idea of it being a 2 day course	2.2%
Course title sounded good	19.0%
Compulsory	7.5%

10. Prior to attending "How to be an effective researcher" I had attended courses on the following topics: (tick all that apply) (N=235)

	<b>Response Percent</b>
Project and time management	63.0%
Communication	46.4%
Working with others	32.3%
Working more effectively with my supervisor	37.4%
Working within different cultures	8.9%
Problem solving	25.1%
Collaboration	17.9%
Understanding my own skills	31.5%

11. Did your supervisors know you were attending the course? (N=358)

	<b>Response Percent</b>
Yes	76.3%
No	23.7%

12. My supervisors were supportive of me attending "How to be an effective researcher". (N=358)

	<b>Response Percent</b>
Strongly agree	31.3%
Agree	43.0%
Slightly agree	18.4%
Slightly disagree	1.7%
Disagree	2.8%
Strongly disagree	2.8%

13. Looking back on "How to be an effective researcher" it was a good use of my time. (N=338)

	<b>Response Percent</b>
Strongly agree	29.0%
Agree	44.1%
Slightly agree	13.9%
Slightly disagree	2.7%
Disagree	6.8%
Strongly disagree	3.6%

14. "How to be an effective researcher" was better than other postgraduate training courses I have attended. (N=338)

	<b>Response Percent</b>
Strongly agree	13.6%
Agree	33.7%
Slightly agree	28.7%
Slightly disagree	10.4%
Disagree	9.8%
Strongly disagree	3.8%

15. The most useful element of "How to be an effective researcher" was?

16. The least useful element of "How to be an effective researcher" was.

17. My Supervisors showed an interest in what I learnt from "How to be an effective researcher". (N=338)

	<b>Response Percent</b>
Strongly agree	5.9%
Agree	24.9%
Slightly agree	26.0%
Slightly disagree	12.1%
Disagree	21.6%
Strongly disagree	9.5%

18. I would recommend "How to be an effective researcher" to other PhD students. (N=338)

	<b>Response Percent</b>
Yes - In the first 6 months of their PhD	50.6%
Yes - In the first 12 months of their PhD	33.4%
Yes - In the 2nd or 3rd years of their PhD	3.6%
No	12.4%

19. By attending "How to be an effective researcher" I improved my understanding of the following areas:

	<b>Strongly agree</b>	<b>Agree</b>	<b>Slightly agree</b>	<b>Slightly disagree</b>	<b>Disagree</b>	<b>Strongly disagree</b>	<b>N</b>
Project and time management	15.5%	48.8%	20.8%	4.7%	6.8%	3.4%	322
Communication	18.9%	45.2%	23.2%	4.0%	6.2%	2.5%	323
Working with others	24.2%	42.3%	21.5%	4.6%	4.9%	2.5%	326
Working more effectively with my supervisor	17.0%	34.3%	26.5%	9.6%	9.3%	3.4%	324
Working within different cultures	12.3%	30.8%	31.4%	10.2%	11.1%	4.3%	325
Problem solving	14.2%	38.4%	27.6%	8.0%	7.7%	4.0%	323
Collaboration	23.9%	41.6%	19.9%	7.1%	5.0%	2.5%	322

20. Is there anything else you learnt from "How to be an effective researcher"?

21. Please provide two examples of key learning points from "How to be an effective researcher".

22. Attending "How to be an effective researcher" enabled me to be more effective in the following areas:

	<b>Strongly agree</b>	<b>Agree</b>	<b>Slightly agree</b>	<b>Slightly disagree</b>	<b>Disagree</b>	<b>Strongly disagree</b>	<b>N</b>
Project and time management	12.8%	45.6%	24.4%	6.6%	7.2%	3.4%	320
Communication	15.0%	42.2%	25.6%	6.9%	7.5%	2.8%	320
Working with others	16.0%	43.9%	22.9%	7.2%	7.2%	2.8%	319
Working more effectively with my supervisor	16.1%	32.2%	29.0%	9.8%	8.8%	4.1%	317
Working within different cultures	9.1%	32.6%	27.9%	14.1%	12.2%	4.1%	319
Problem solving	11.6%	38.7%	27.0%	10.7%	8.5%	3.5%	318
Collaboration	15.8%	39.2%	25.9%	7.9%	7.3%	3.8%	316

23. Please provide examples of what you have done differently as a result of attending "How to be an effective researcher".

24. Attending "How to be an effective researcher" prompted me to attend further courses on.

	Response Percent
Project and time management	54.6%
Communication	41.0%
Working with others	29.5%
Working more effectively with my supervisor	29.5%
Working within different cultures	15.3%
Problem solving	35.5%
Collaboration	23.0%
Other (please specify)	21.9%

25. As a result of attending "How to be an effective researcher":

Answer Options	Strongly agree	Agree	Slightly agree	Slightly disagree	Disagree	Strongly disagree	N
My research has improved	9.2%	38.9%	31.0%	10.8%	6.6%	3.5%	316
I will be able to complete my PhD quicker	6.1%	20.5%	34.0%	18.9%	14.7%	5.8%	312
I have an improved relationship with my supervisor	8.6%	29.5%	32.4%	13.0%	10.5%	6.0%	315
I am more confident as a postgraduate researcher	20.3%	38.9%	25.0%	6.3%	5.4%	4.1%	316
I have developed a network of researchers	11.4%	28.9%	27.9%	16.2%	11.4%	4.1%	315
I am enjoying my PhD more	12.4%	28.9%	32.1%	14.9%	7.3%	4.4%	315
I have a better understanding of my transferable skills	18.7%	37.1%	27.3%	7.0%	6.7%	3.2%	315

26. Please provide examples of how attending "How to be an effective researcher" has made a tangible difference to your postgraduate experience.

27. Overall, how would you rate "How to be an effective researcher" based upon the impact it has had on your postgraduate research? (N=317)

	Response Percent
Excellent	22.1%
Good	47.9%
Average	18.6%
Poor	6.9%
Very Poor	4.4%

28. What other training programmes would you find useful?

29. Is there anything else about "How to be an Effective Researcher" which has not been covered in this survey which you would like to comment upon?

## Appendix 4: Institutional questionnaire and results

1. Why did you choose to run "How to be an effective researcher"? (please tick all that apply) (N=25)

	Response Percent
Available off the shelf programme	28.0%
Wanted to use "best practice" programme	28.0%
Course content was relevant and complemented your existing courses.	44.0%
Recommended by other HEIs	20.0%
Visited an Effective Researcher course at another institution	28.0%
Recommended by the Vitae Hub	52.0%
Attended a regional taster session organised by Vitae	48.0%
Informed of it through Vitae Publications / conferences	4.0%
Recommended by external facilitators	8.0%

2. How many "How to be an effective researcher" programmes have you run?

3. Approximately how many participants have attended an "How to be an effective researcher" programme at your institution.

4. Was the "How to be an effective researcher" compulsory for postgraduate researchers?

	Response Percent
Yes	8.0%
No	92.0%

5. Did you change the programme name? (N=24)

	Response Percent
Yes	4.2%
No	95.8%

6. It was easy to market "How to be an effective researcher" to:

	Strongly agree	Agree	Slightly agree	Slightly disagree	Disagree	Strongly disagree	Did not market	N
Postgraduate researchers	25.0%	45.8%	20.8%	8.3%	0.0%	0.0%	0.0%	24
Supervisors	4.3%	8.7%	13.0%	21.7%	4.3%	4.3%	43.5%	23
Senior Managers	4.3%	13.0%	13.0%	17.4%	0.0%	0.0%	52.2%	23

7. How did you market "How to be an effective researcher" to postgraduate researchers? (please tick all that apply) (N=24)

	Response Percent
Emails	95.8%
Websites	66.7%
Catalogue of courses	54.2%
At other training courses	41.7%
Through supervisors	33.3%

8. Did you focus your marketing of the programme to a particular group of postgraduate researchers (stage of study/discipline)? (N=23)

	Response Percent
Yes	79.2%
No	20.8%

9. It was easy to get postgraduate researchers to register for "How to be an effective researcher". (N=24)

	Response Percent
Strongly agree	29.2%
Agree	29.2%
Slightly agree	25.0%
Slightly disagree	8.3%
Disagree	8.3%
Strongly disagree	0.0%

10. Which methods were most effective for marketing "How to be an effective researcher" to: postgraduate researchers, supervisors and senior managers?
11. What additional information would have been useful to help market "How to be an Effective Researcher" to: postgraduate researchers, supervisors and senior managers.
12. The materials we received from Vitae were sufficient to allow the smooth running of the programme. (N=22)

	Response Percent
Strongly agree	54.5%
Agree	31.8%
Slightly agree	9.1%
Slightly disagree	0.0%
Disagree	4.5%
Strongly disagree	0.0%

13. We received good support from Vitae in delivering our first "How to be an effective researcher". (N= 22)

	<b>Response Percent</b>
Strongly agree	63.6%
Agree	31.8%
Slightly agree	0.0%
Slightly disagree	4.5%
Disagree	0.0%
Strongly disagree	0.0%

14. What further/additional support from Vitae would you ideally like to have received?

15. Did you use and deliver the whole programme as suggested by Vitae? (N=22)

	<b>Response Percent</b>
Yes	72.7%
No	27.3%

16. The logistics for "How to be an effective researcher" are easy to organise. (N=22)

	<b>Response Percent</b>
Strongly agree	27.3%
Agree	40.9%
Slightly agree	22.7%
Slightly disagree	0.0%
Disagree	9.1%
Strongly disagree	0.0%

17. "How to be an effective researcher" is a cost effective way of delivering skills development. (N=22)

	<b>Response Percent</b>
Strongly agree	22.7%
Agree	22.7%
Slightly agree	45.5%
Slightly disagree	4.5%
Disagree	4.5%
Strongly disagree	0.0%

18. How have you evaluated the effectiveness of the programme? (pick all that apply) (N=22)

	Response Percent
Participant questionnaires at the end of programme	100.0%
Participant questionnaires some months after the end of the programme	9.1%
Focus Groups some months after the end of the programme	4.5%

19. What are the consistent messages that you receive from your evaluation of "How to be an effective researcher" programmes?

20. As part of this evaluation of the whole "How to be an effective researcher" programme, would you be prepared to share your institutional evaluation results with Vitae?

	Response Percent
Yes	81.8%
No	18.2%

21. Have you developed or modified "How to be an effective researcher". (N=22)

	Response Percent
Yes	40.9%
No	59.1%

22. For your first "How to be an effective researcher programme" what facilitation approach did you choose? (N=22)

	Response Percent
External facilitators only	68.2%
Internal facilitators only	0.0%
External and internal facilitators	31.8%

23. Why did you choose this facilitation approach? (pick all that apply) (N=22)

	Response Percent
Ease of organisation	45.5%
Wanted to see it run with external facilitators first	54.5%
No suitable internal facilitators	18.2%
Develop the skills of internal facilitators	50.0%
Cost effectiveness	4.5%
Recommended by Vitae Hub/other institution	13.6%

24. Has your facilitation approach changed over time? (N=22)

	Response Percent
Yes	59.1%
No	40.9%

25. Delivery of "How to be an effective researcher" has

	Strongly agree	Agree	Slightly agree	Slightly disagree	Disagree	Strongly disagree	N
supported the institution in delivering against the Robert's agenda.	27.3%	45.5%	22.7%	0.0%	0.0%	4.5%	22
enhanced the connection between training delivery and research at the institution.	0.0%	22.7%	50.0%	4.5%	13.6%	9.1%	22
helped change the culture and attitudes towards training at the institution.	0.0%	9.1%	50.0%	13.6%	18.2%	9.1%	22
supported the development of our internal facilitators.	13.6%	27.3%	22.7%	13.6%	18.2%	4.5%	22
helped us develop our relationship with Vitae.	18.2%	50.0%	13.6%	13.6%	0.0%	4.5%	22
helped develop relationships with external facilitators and trainers.	27.3%	54.5%	18.2%	0.0%	0.0%	0.0%	22
supported us in extending our provision of other courses.	13.6%	4.5%	36.4%	18.2%	18.2%	9.1%	22

26. The institution's delivery of "How to be an effective researcher" is financially sustainable in its current form. (N=22)

	Response Percent
Strongly agree	9.1%
Agree	27.3%
Slightly agree	27.3%
Slightly disagree	18.2%
Disagree	4.5%
Strongly disagree	13.6%

27. "How to be an effective researcher" is a core part of our generic skills delivery. (N=22)

	Response Percent
Strongly agree	36.4%
Agree	18.2%
Slightly agree	4.5%
Slightly disagree	13.6%
Disagree	13.6%
Strongly disagree	13.6%

28. Please provide examples of the key benefits which your institution has gained by delivering "How to be an effective researcher".
29. What, if anything, have you personally (as a member of staff supporting researchers) gained by including "How to be an effective researcher" in your institution's provision of courses?
30. Do you intend to include "How to be an effective researcher" in your institution's provision of skills training again? (N=22)

	<b>Response Percent</b>
Yes	86.4%
No	13.6%

31. How do you see "How to be an effective researcher" developing at your institution in the future?
32. If funding for postgraduate researcher development is reduced in the future would you still deliver "How to be an effective researcher"? (N=22)

	<b>Response Percent</b>
Yes	40.9%
No	18.2%
Unsure	40.9%

33. How do you think Vitae should develop "How to be an effective researcher" in the future?
34. What other programmes should Vitae be developing to support the delivery of researcher development?