

Development of the Researcher development framework

Method

The Researcher development framework was developed through applying a phenomenographic approach to primary data consisting of close interviews with over 100 participants and through cross referring the primary data with secondary data and expert advice. This resulted in a comprehensive view of the knowledge, skills, behaviours, personal qualities and attributes required of researchers at different phases of their careers. An explanation of the individual components of the method is offered below.

Basic structure

Five phases of research careers were identified and seemed sensible: new researcher, researcher, established researcher, advanced and eminent researchers.

It was agreed that for the framework to be most useful it should indicate the characteristics and skills exhibited by a 'good' researcher at any given phase with excellence and aspiration indicated in the next level of proficiency or phase.

Phenomenographic approach

The phenomenographic approach is identified with empirical research and, in particular, is associated with educational research; notable exponents include Ference Marton and, more recently, Gerlese Åkerlind. The approach is premised on the assumption that an individual will only partially experience or notice a phenomenon and cannot 'know' the whole picture. By capturing and gathering a range of (partial) viewpoints a fuller, collective, picture of the phenomenon under investigation can be obtained. Therefore, no single researcher could 'know' all of the qualities required for being a researcher with respect to every kind or type of researcher, let alone those in each discipline. However, if a broad spectrum of researchers' views are captured it is possible to identify the significant details and important characteristics. It is an essential requirement of the method that both similarities *and* differences are identified in interview data. In this way, variation in understanding among the interviewees and their perception of what is significant around the phenomenon (of being a researcher) can be synthesised.

It is an interpretative method but one that rests firmly on what researchers, in the first instance, recognise as significant about themselves.

Primary data

The primary data set has informed the fundamental structure and the majority of the content of the Researcher development framework. It consisted of data obtained from semi-structured interviews with 81 researchers and two focus group of, approximately, 25 participants. Three sets of interview data were used for the project.

In 2008 research was conducted, independently, by Glasgow Caledonian University^{1,2} and the Faculty of Humanities at the University of Manchester³; however, the projects shared the

¹ The Glasgow Caledonian University Researcher Skills Map Project, 2008, Prof Bonnie Steves, Calum Webster, Glasgow Caledonian University www.vitae.ac.uk/rdfconsultation

² Glasgow Caledonian University generic leadership framework in Webster, C 2007: 'Glasgow Caledonian University Leadership Development Centre Workbook', Glasgow Caledonian University www.vitae.ac.uk/rdfconsultation

³ Academic competencies, 2008, Dr Maria Nevada, University of Manchester, Dr Julie Reeves, (now) University of Southampton www.vitae.ac.uk/rdfconsultation

similar purpose of seeking to identify the qualities required of researchers in higher education. A unique feature of the research conducted by Glasgow Caledonian University was that it had focused on leadership qualities and the attributes likely to be required of researchers in the future. Whereas the Manchester project had used a repertory grid system asking research leaders to identify the qualities associated with outstanding and under-performing researchers and/or academics. Both projects employed a semi-structured interview technique. In spite of any slight variations in purpose and approach behind each project, both sets of interview data yielded very similar results in terms of the researcher qualities and attributes they identified.

The datasets from the Glasgow Caledonian and Manchester University projects were brought together by Vitae in June 2009. An initial analysis revealed some gaps in terms of disciplinary and demographic coverage. These areas were identified and a new questionnaire was constructed for Vitae that combined questions from the Glasgow Caledonian and Manchester University projects. Subsequent interviews of targeted researchers were conducted by the University of Reading and the University of Southampton and at the University of Surrey.

Interviews were audio-recorded but in some cases, where this was not possible, notes were taken. All transcriptions of the interviews were searched, using the phenomenographic approach, for the key qualities and features that interviewees had noted as significant. The analysis resulted in over 1,000 characteristics and their variants being identified, which have been collated in a spreadsheet.

Clustering

Once all characteristics had been identified and collated they were clustered into relevant groups according to type; it is important to note that the vast majority of the clustering and the categories within each cluster area have been determined by what the profession counted as significant. Initially nine cluster groupings were established which were refined, quickly, to eight. Finally four main groupings emerged that were considered appropriate and accessible to users and these were named 'domains'.

Working across the five phases, key descriptors from the data were positioned under the most relevant phase and other descriptors elaborated from available data, secondary data and the input of experts. Where researchers had little to say in certain areas, notably on the emerging issues in academia such as public engagement and global citizenship, secondary data and expert advice were drawn upon to complete the framework.

Secondary data

Two literature reviews⁴ surveyed a large number of competency frameworks and skills' lists from both the education and corporate sectors. These frameworks and lists (including those well known in HEIs such as the Joint Skills Statement⁵, Irish Universities Association's PhD graduate skills⁶, JNCHES role profiles⁷ and UCU promotion criteria for academic staff⁸) were examined for key similarities and differences in comparison with the embryonic Researcher development framework. All the primary data characteristics, or 'key descriptors' as they were now described, were cross-referenced with secondary data. The aim was to identify any additional areas that might be of relevance to the researcher environment. This process refined the structure and content, it did not fundamentally change the nascent framework.

There were also a number of areas in the framework, such as, information management⁹, career management¹⁰, enterprise and entrepreneurship¹¹, public engagement¹² and public sector and policy¹³ where expert advice was also sought. Specialists in these areas have a focus on how these skills need to develop that researchers don't necessarily have, and so will have a more complete picture of their lens on the framework.

The full Researcher development framework is available at www.vitae.ac.uk/rdf

Unique features of Researcher development framework

One of the key advantages of a phenomenographic approach is that because '*there will always be more than one way of understanding a phenomenon, the phenomenon under investigation is not pre-defined by the researcher*' (Åkerlind 2008, p243). Rather what emerges is a 'collective range' of views that are captured and clustered together. In this respect, it cannot be over-emphasised that the Researcher development framework is *not* a competency framework; rather, it is a *development* framework for researchers.

The method employed by the project has resulted in a greater of range and variety of researcher skills, attributes and qualities being captured than a strict 'competency framework' normally allows. Competency frameworks are usually defined by 'skill' acquisition and Rowe (1995), for example, explicitly excludes ethical and moral qualities. Personal qualities, professional integrity and ethical behaviour are, however, major features of the Researcher development framework, contrary to the orthodox notion of a competency framework. The method has revealed that these kinds of qualities are essential components of what it means to be a researcher and the 'mixed' framework can be justified on these

⁴ Initial survey of the literature relating to the skills, competences and attributes of researchers, 2009, Dr Anne Lee, University of Surrey and Review of literature relating to competency frameworks for researchers, 2009, Shaharazad Abuel-Ealeh, CRAC www.vitae.ac.uk/rdfconsultation

⁵ Joint Statement of the UK Research Councils' Training Requirements for Research Students (JSS) www.vitae.ac.uk/jss

⁶ Irish Universities' PhD Graduates' Skills www.iaa.ie/publications/documents/publications/2008/Graduate_Skills_Statement.pdf

⁷ Joint National Committee of Higher Educational Staff (JNCHES) www.ucea.ac.uk/en/New_JNCHES/

⁸ University and College Union www.ucu.org.uk

⁹ Stephane Goldstein, Research Information Network www.rin.ac.uk

¹⁰ Elizabeth Wilkinson, Careers and Employability, University of Manchester and AGCAS research staff task group www.agcas.ac.uk

¹¹ Alison Mitchell, University of Strathclyde and a member of the intrapreneurship project team, A collaborative project between Vitae, CRAC and nine higher education institutions, www.vitae.ac.uk/policy-practice/92293/Intrapreneurship-project.html

¹² Steve Dorney, Schools Science Communicator & Co-ordinator, ISVR, University of Southampton and Sophie Duncan, National Co-ordinating Centre for Public Engagement <http://rbi.uwe.ac.uk/nccpe/default.htm>

¹³ Julie McLaren, ESRC Policy and Resources Directorate www.esrc.ac.uk

grounds. Similarly, the language of the Researcher development framework reflects its' broad character. The terms 'domain', 'sub-domain' and 'key descriptor' seemed to capture the range of content best and avoided inferring the notion of 'competencies' that are essentially skill based.

The depth of issues the Researcher development framework contains is greater than the JSS and is more explicit in the detail. For example, among the key descriptors for Career development skills (2.3) 'dissemination' and 'authority' are included alongside the obvious and general career management skills, as these issues are central to the nature of a research career.

Select bibliography

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