vitae
realising
the potential
of researchers

**Researcher
Development
Framework**

Mapping training and development provision to the Researcher Development Framework

Introduction

Following the launch of the Researcher Development Statement (RDS)[1] in July 2010 and the launch of the Researcher Development Framework (RDF)[2] content in September, Vitae has been conducting a project to update all of its training and development materials from the Joint Skills Statement[3] and to map them to the new Researcher Development Framework. This paper provides details about the aims of this project, the mapping criteria that were used, a suggested mapping process and two examples of mapping resources to the RDF.

In May 2011 Vitae's learning materials and programmes will be available on the Vitae Database of Resources[4], mapped to the RDF. This will include the Effective Researcher, Broadening Horizons and GRADschool materials.

Aims of mapping training and development provision to the RDF

Vitae has developed a methodology to map learning materials and programmes to the RDF.

Senior HEI management will be able to:

■ develop a strategic approach to training and development across the institution.

Staff supporting researchers will be able to:

■ select appropriate material to meet particular course/activity objectives
■ plan and review training and development provision to meet overall programme objectives.

Researchers will be able to:

■ select appropriate training and professional development opportunities
■ place their training in the context of their professional development as a researcher
■ identify and contextualise what they have learned.

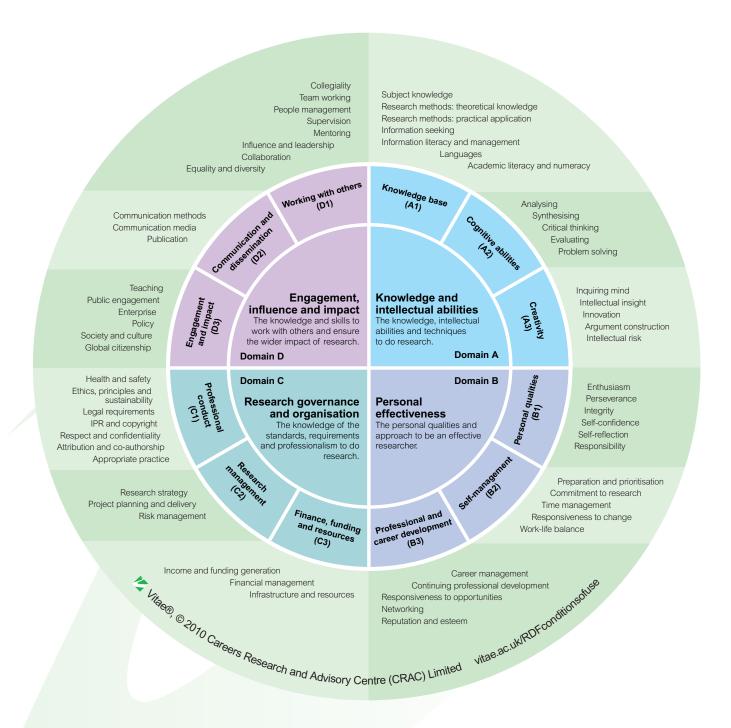[1] www.vitae.ac.uk/rds

[2] www.vitae.ac.uk/rdf

[3] www.vitae.ac.uk/jss

[4] www.vitae.ac.uk/resources

Introduction to the Researcher Development Framework

The Researcher Development Framework (RDF) is a major new approach to researcher development, to enhance our capacity to build the UK workforce, develop world-class researchers and build our research base.

The RDF is a professional development framework for planning, promoting and supporting the personal, professional and career development of researchers in higher education. It articulates the knowledge, behaviours and attributes of successful researchers and encourages them to realise their potential.

Collegiality
Team working
People management
Supervision
Mentoring
Influence and leadership
Collaboration
Equality and diversity

Subject knowledge
Research methods: theoretical knowledge
Research methods: practical application
Information seeking
Information literacy and management
Languages
Academic literacy and numeracy

Communication methods
Communication media
Publication

Analysing
Synthesising
Critical thinking
Evaluating
Problem solving

Teaching
Public engagement
Enterprise
Policy
Society and culture
Global citizenship

Inquiring mind
Intellectual insight
Innovation
Argument construction
Intellectual risk

Health and safety
Ethics, principles and sustainability
Legal requirements
IPR and copyright
Respect and confidentiality
Attribution and co-authorship
Appropriate practice

Enthusiasm
Perseverance
Integrity
Self-confidence
Self-reflection
Responsibility

Research strategy
Project planning and delivery
Risk management

Preparation and prioritisation
Commitment to research
Time management
Responsiveness to change
Work-life balance

Income and funding generation
Financial management
Infrastructure and resources

Career management
Continuing professional development
Responsiveness to opportunities
Networking
Reputation and esteem

Working with others (D1)
Communication and dissemination (D2)
Engagement and impact (D3)

Knowledge base (A1)
Cognitive abilities (A2)
Creativity (A3)

Engagement, influence and impact
The knowledge and skills to work with others and ensure the wider impact of research.
Domain D

Knowledge and intellectual abilities
The knowledge, intellectual abilities and techniques to do research.
Domain A

Domain C
Research governance and organisation
The knowledge of the standards, requirements and professionalism to do research.

Domain B
Personal effectiveness
The personal qualities and approach to be an effective researcher.

Professional conduct (C1)
Research management (C2)
Finance, funding and resources (C3)

Personal qualities (B1)
Self-management (B2)
Professional and career development (B3)

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Structure

The RDF has been created from empirical data, collected through interviewing researchers, to identify the characteristics of excellent researchers expressed in the RDF as 'descriptors'. The descriptors are structured in four domains and 12 sub-domains, encompassing the knowledge, intellectual abilities, techniques and professional standards to do research, as well as the personal qualities, knowledge and skills to work with others and ensure the wider impact of research. Each of the 63 descriptors contains between three and five phases, representing distinct stages of development or levels of performance within that descriptor.

See www.vitae.ac.uk/rdf for further information and resources.

The Framework is designed for:

- researchers to evaluate and plan their professional development
- managers and supervisors of researchers in their role to support the development of researchers
- trainers, developers, human resources specialists and careers advisors in the planning and provision of support for researchers' development.

It will also be of interest to employers to understand the portfolio of skills unique to researchers and their potential as highly-valued employees, individuals interested in becoming researchers, and researchers looking to move into higher education from other sectors. Policymakers, funders of researchers and other stakeholders will find the associated Researcher Development Statement (RDS)[5] a useful strategic overview of the RDF.

Mapping criteria

A set of criteria for mapping Vitae's training and development provision was devised that would meet the needs of senior managers, staff supporting researchers and researchers. This recognised that mapping needs to strike a balance between level of detail and ease of use. The chosen parameters, which were then tested by mapping Vitae's published resources, were:

- Resources should be mapped to the descriptor level of the RDF
- For usability reasons (on the Vitae Database of Resources) learning outcomes for a resource should not cover more than five sub-domains
- Mapping would differentiate between 'primary' and 'secondary' outcomes
- An upper limit of five primary and five secondary learning outcomes would be recorded on the resources

Definitions of primary and secondary outcomes

- A primary outcome is defined as an outcome that is likely to be achieved by all participants irrespective of how the resource is presented
- A secondary outcome is that which might be achieved but to a lesser extent than a primary outcome and will vary from participant to participant depending on how the training activity is delivered and what focus is presented

Advice on suggested process

The following suggestions are based on the experience of mapping over 50 Vitae resources, ranging in scale from two-day programmes to 'hints and tips' help sheets for researchers.

Before you start

1. Decide your criteria

Be clear about your purpose and users, so that you can set appropriate boundaries/criteria for mapping. Mapping has to be sufficiently detailed to meet the needs of different users. However, it is not in the users' interests for resources to be mapped 'to the nth degree'; that is, where the extent to which a resource addresses a behaviour/attribute is marginal. Working within the above mapping criteria offers a useful focus. There are likely to be cases, for example in programmes lasting a day or more, where learning outcomes may exceed ten learning outcomes/five sub-domains. You may wish to treat the suggested mapping criteria with flexibility in specific instances.

2. Familiarity with the RDF

Although detailed knowledge of the RDF is not a prerequisite, a grasp of its basic hierarchy and structural principles facilitates more confident mapping decisions. At the outset, it can be helpful to absorb (and differentiate) the meaning of the 'tag lines' for each domain (e.g. Domain A 'This domain contains the knowledge and intellectual abilities needed to be able to carry out excellent research').

Suggested mapping process

1. Read the resource closely enough to understand what participants DO in the activity
2. Beware of skimming 'key phrases' in the activity brief in case they are misleading or incomplete
3. Note that the activity debrief is often particularly helpful for identifying key learning foci
4. Re-read the resource, again keeping your focus on the participants' actual experience
5. Note knowledge, behaviours or attributes addressed (such as gaining new knowledge, practising a skill, personal quality explored, etc.)
6. Find the appropriate RDF domain for each one (ABCD)
7. Then the most appropriate sub-domain (e.g. D2 'Communication and dissemination')
8. Only then look at the key descriptors, with reference to their (phase) descriptions, if necessary, to find ones that fit the learning outcome
9. Decide on primary outcomes; those that are likely to be relevant to all participants, and achievable whichever way the activity is presented
10. Look at the remaining outcomes, identified as secondary ones because they might only be achieved by some participants, and/or are dependent on presenter delivery. Check they are all valid.

Using short cuts can give misleading results: focusing on a particular word or phrase in the RDF can produce 'false friends'. Ensure understanding of the intended meaning by referring to its RDF domain/sub-domain context. Even if the resource is currently mapped to the Joint Skills Statement (JSS)[6], it is advisable to start for scratch using the RDF (see example on the right).

Resources vary tremendously in scope and scale. You might legitimately code one resource to a single descriptor and the next to ten. Do guard against overcoding. Distinguish between 'touching on' and developing. To take an obvious example, just because an exercise involves working in a group, it is not necessarily developing teamwork understanding or skills. Aided by this 'less is more' approach, it should be possible to follow the same mapping process regardless of the amount of material contained in the resource.

Checking results

Having done an initial mapping, the following checks are recommended. You might use all these checks for a multi-faceted resource or only one or two for a short activity on a particular topic.

1. Reality testing the descriptors by inserting them into the overview or activity leader introduction. Do any look out of place?
2. Looking at the resource at domain level – if the resource covers, say public engagement activities and personal effectiveness behaviours, are descriptors from both domains D and B represented?
3. Comparing with any previous coding to the Joint Skills Statement and investigating any differences in interpretation of the resource.

The most robust check is for two people to do the mapping of the same resource/s independently, compare their results and use this to refine the mapping criteria and interpretation. This is a particularly useful method to ensure consistency if more than one person will have responsibility for mapping resources.

Relationship between the RDF and JSS when mapping resources

If your resources are mapped against the JSS, you may be tempted to take the relevant JSS statement and identify the 'equivalent' RDF descriptor through the JSS to RDF comparison.

However, the RDF is much broader in scope than the JSS and structured differently. The JSS to RDF comparison is a 'best fit' rather than a direct translation and can lead to inappropriate RDF mapping of resources if used for this purpose.

Example: Vitae 'Managing the student-supervisor relationship' resource

This case study focuses 'on encouraging postgraduate researchers to take responsibility for more effective management of their supervision'.

Using the RDF, appropriate descriptors are grouped in the sub-domain D1 'Working with others'. Primary outcomes are: D1.1 'Collegiality', D1.3 'People management' and D1.6 'Influence and leadership'. Other descriptors coded as primary outcomes are B1.5 'Self-reflection' and B1.6 'Responsibility'.

Secondary outcomes are identified as: A2.5 'Problem solving', B1.4 'Self-confidence', C1.5 'Respect and confidentiality', D1.4 'Supervision', and D2.1 'Communication methods'.

In the JSS this case study maps to 'Develops and maintains co-operative networks and working relationships with supervisors, colleagues and peers, within the organisation and the wider research community' (F1). The relevant part of the JSS statement being 'Develops and maintains co-operative…working relationships with supervisors…'.

However, in the RDF, this JSS statement appears in B3.4 'Networking' (Professional and career development) as the statement is predominantly about networking, rather than supervisory relationships. In practice, the Vitae 'Managing the student-supervisor relationship' resource does not discuss networking in any form and a direct translation from the JSS statement to RDF descriptor would be misleading.

Two further examples of mapped resources (a whole day programme and a two-hour activity), are given on the next two pages in a suggested format for display in the resource.

This methodology will also be useful for mapping your practices against the RDF sub-domains in the Vitae Database of Practice (www.vitae.ac.uk/dop).

If you have any comments or feedback regarding the RDF/mapping process please email rdf@vitae.ac.uk.

Vitae Advancing in Academia

(www.vitae.ac.uk/advancinginacademia)

The Advancing in Academia programme is a one-day event that encourages participants to consider their career path and provides advice on how to succeed in a competitive and complex research environment. The event is aimed at early career researchers and enables them to:

- meet with successful academics from a range of disciplines to hear how they advanced their academic career and to seek career advice
- consider how to balance the requirements of improving their skills and achievements with building their professional profile
- review the current higher education environment
- review their own career path and develop an action plan to strategically manage their career
- network with fellow researchers.

Domain A: Knowledge and intellectual abilities		
A1 Knowledge base	**P**	**S**
1. Subject knowledge		
2. Research methods – theoretical knowledge		
3. Research methods – practical application		
4. Information seeking		
5. Information literacy and management		
6. Languages		
7. Academic literacy and numeracy		
A2 Cognitive abilities		
1. Analysing		
2. Synthesising		
3. Critical thinking		
4. Evaluating		
5. Problem solving		
A3 Creativity		
1. Inquiring mind		
2. Intellectual insight		
3. Innovation		
4. Argument construction		
5. Intellectual risk		

Domain B: Personal effectiveness		
B1 Personal qualities	**P**	**S**
1. Enthusiasm		
2. Perseverance		
3. Integrity		
4. Self-confidence		
5. Self-reflection	√	
6. Responsibility		
B2 Self-management		
1. Preparation and prioritisation		
2. Commitment to research		
3. Time management		
4. Responsiveness to change		
5. Work-life balance		
B3 Professional and career development		
1. Career management	√	
2. Continuing professional development	√	
3. Responsiveness to opportunities		√
4. Networking		√
5. Reputation and esteem		√

Domain C: Research governance and organisation		
C1 Professional conduct	**P**	**S**
1. Health and safety		
2. Ethics, principles and sustainability		
3. Legal requirements		
4. IPR and copyright		
5. Respect and confidentiality		
6. Attribution and co-authorship		
7. Appropriate practice		
C2 Research management		
1. Research strategy		
2. Project planning and delivery		
3. Risk management		
C3 Finance, funding and resources		
1. Income and funding generation		
2. Financial management		
3. Infrastructure and resources		

Primary (P) and secondary (S) outcomes highlighted (√)

Domain D: Engagement, influence and impact		
D1 Working with others	**P**	**S**
1. Collegiality		
2. Team working		
3. People management		
4. Supervision		
5. Mentoring		
6. Influence and leadership		√
7. Collaboration		
8. Equality and diversity		
D2 Communication and dissemination		
1. Communication methods		
2. Communication media		
3. Publication		
D3 Engagement and impact		
1. Teaching		
2. Public engagement		
3. Enterprise		
4. Policy		
5. Society and culture		
6. Global citizenship		

Ketso: a case study on social enterprise

(www.vitae.ac.uk/policy-practice/40705-352381/Ketso-a-case-study-on-social-enterprise.html)

This two-hour case study developed in collaboration with the University of the West of England uses a real life example of a social enterprise that was established as a spin-out venture from a UK university. The session focuses on the practical elements concerning the sustainability of social enterprises with a strong focus on creative problem solving.

Domain A: Knowledge and intellectual abilities		
A1 Knowledge base	**P**	**S**
1. Subject knowledge		
2. Research methods – theoretical knowledge		
3. Research methods – practical application		
4. Information seeking		
5. Information literacy and management		
6. Languages		
7. Academic literacy and numeracy		
A2 Cognitive abilities		
1. Analysing		
2. Synthesising		
3. Critical thinking		
4. Evaluating		
5. Problem solving	√	
A3 Creativity		
1. Inquiring mind	√	
2. Intellectual insight		√
3. Innovation	√	
4. Argument construction		
5. Intellectual risk		

Domain B: Personal effectiveness		
B1 Personal qualities	**P**	**S**
1. Enthusiasm		
2. Perseverance		
3. Integrity		
4. Self-confidence		
5. Self-reflection		
6. Responsibility		
B2 Self-management		
1. Preparation and prioritisation		
2. Commitment to research		
3. Time management		
4. Responsiveness to change		
5. Work-life balance		
B3 Professional and career development		
1. Career management		√
2. Continuing professional development		√
3. Responsiveness to opportunities		√
4. Networking		
5. Reputation and esteem		

Domain C: Research governance and organisation		
C1 Professional conduct	**P**	**S**
1. Health and safety		
2. Ethics, principles and sustainability		
3. Legal requirements		
4. IPR and copyright		
5. Respect and confidentiality		
6. Attribution and co-authorship		
7. Appropriate practice		
C2 Research management		
1. Research strategy		
2. Project planning and delivery		√
3. Risk management		
C3 Finance, funding and resources		
1. Income and funding generation		
2. Financial management		
3. Infrastructure and resources		

Primary (P) and secondary (S) outcomes highlighted (√)

Domain D: Engagement, influence and impact		
D1 Working with others	**P**	**S**
1. Collegiality		
2. Team working		
3. People management		
4. Supervision		
5. Mentoring		
6. Influence and leadership		
7. Collaboration		
8. Equality and diversity		
D2 Communication and dissemination		
1. Communication methods		√
2. Communication media		
3. Publication		
D3 Engagement and impact		
1. Teaching		
2. Public engagement		
3. Enterprise	√	
4. Policy		
5. Society and culture	√	
6. Global citizenship		