

Comparison of the Joint Skills Statement with the Researcher development framework

The Joint Skills Statement (JSS) was jointly issued by the UK research councils in 2001. It sets out the skills and attributes that doctoral researchers are expected to develop during their postgraduate research degree programmes. The development of the JSS was groundbreaking in providing a framework and language, irrespective of discipline, to articulate postgraduate researchers' skills. It has been embedded in the QAA Code of Practice for Research Degree Programmes and within the Roberts' agenda, which focuses on the skills development of sections D-G of the JSS: personal effectiveness, communication skills, networking and team working, and career development. The JSS has been used extensively by institutions to map their provision of skills development opportunities and to create personal development tools for postgraduate researchers.

However, the higher education sector and the research councils have recognised that it has effectively become the baseline and we need to move beyond it. It now needs to reflect the broader range of skills, for example, leadership, creativity, enterprise, which are required to be an effective researcher and employee in a world driven by knowledge production and innovation.

Furthermore, the JSS is a snapshot at the completion of a doctorate. For it to function effectively to support the development of researchers it needs to evolve to include how researchers can improve their proficiency and career opportunities within the academic sector and beyond.

However, the JSS has been instrumental in ensuring a focus on transferable skills development for postgraduate researchers as well as being an invaluable tool for researchers and those supporting their development in providing a 'framework' around which activities can take place. An important part of the development of the framework is to manage the transition from the JSS to its successor.

All the skills and attributes of the JSS have been incorporated into the framework and highlighted against the Researcher development framework descriptors for reference. Table 1 and Table 2 below show how the JSS and Researcher development framework map onto each other.

Two important stakeholders in the transition from the JSS to the Researcher development framework are the QAA and the research councils. The QAA have given their agreement in principle to incorporating the Researcher development framework, as a replacement to the JSS, into the next revision of Section One of their Code of Practice¹. Initial conversations with RCUK and the research councils have confirmed their commitment to review the proposed framework with respect to their training requirements and the Roberts' agenda. These discussions are continuing in parallel with the consultation process.

¹ The QAA is currently evaluating the Academic Infrastructure. How the successor to the JSS is incorporated into Section One of the ten sections of the Code of Practice, part of the Academic Infrastructure, will depend on the outcomes of this evaluation.

Table 1: Joint Skills Statement skills and attributes mapped against where they have been incorporated into the Researcher development framework

Joint Skills Statement	Researcher development framework
<p>(A) Research Skills and Techniques - to be able to demonstrate:</p> <ol style="list-style-type: none"> 1. the ability to recognise and validate problems 2. original, independent and critical thinking, and the ability to develop theoretical concepts 3. a knowledge of recent advances within one's field and in related areas 4. an understanding of relevant research methodologies and techniques and their appropriate application within one's research field 5. the ability to critically analyse and evaluate one's findings and those of others 6. an ability to summarise, document, report and reflect on progress 	<p>1.2.2 Critical thinking 1.2.2 Critical thinking</p> <p>1.1.1 Subject knowledge</p> <p>1.1.2 Research methods (knowledge)</p> <p>1.2.1 Analysis</p> <p>1.2.4 Evaluation</p>
<p>(B) Research Environment - to be able to:</p> <ol style="list-style-type: none"> 1. show a broad understanding of the context, at the national and international level, in which research takes place 2. demonstrate awareness of issues relating to the rights of other researchers, of research subjects, and of others who may be affected by the research, e.g. confidentiality, ethical issues, attribution, copyright, malpractice, ownership of data and the requirements of the Data Protection Act 3. demonstrate appreciation of standards of good research practice in their institution and/or discipline 4. understand relevant health and safety issues and demonstrate responsible working practices 5. understand the processes for funding and evaluation of research 6. justify the principles and experimental techniques used in one's own research 7. understand the process of academic or commercial exploitation of research results 	<p>4.3.5 Global citizenship and internationalisation</p> <p>3.1.2 Ethics, 3.1.3 Legal requirements, 3.1.4 Respect and confidentiality, 3.1.5 Attribution and co-authorship, 3.1.6 Copyright and IPR <i>and</i> 3.1.7 Appropriate practice</p> <p>2.1.7 Integrity</p> <p>3.1.1 Health and safety</p> <p>3.3.1 Income generation</p> <p>1.1.2 Research methods (knowledge)</p> <p>2.3.4 Dissemination <i>and</i> 4.4.3 Enterprise/entrepreneurship</p>
<p>(C) Research Management - to be able to:</p> <ol style="list-style-type: none"> 1. apply effective project management through the setting of research goals, intermediate milestones and prioritisation of activities 2. design and execute systems for the acquisition and collation of information through the effective use of appropriate resources and equipment 3. identify and access appropriate bibliographical resources, archives, and other sources of relevant information 4. use information technology appropriately for database management, recording and presenting information 	<p>3.2.1 Project management and delivery</p> <p>1.1.8 Information management</p> <p>1.1.7 Information seeking</p> <p>1.1.8 Information management</p>

<p>(D) Personal Effectiveness - to be able to:</p> <ol style="list-style-type: none"> 1. demonstrate a willingness and ability to learn and acquire knowledge 2. be creative, innovative and original in one's approach to research 3. demonstrate flexibility and open-mindedness 4. demonstrate self-awareness and the ability to identify own training needs 5. demonstrate self-discipline, motivation, and thoroughness 6. recognise boundaries and draw upon/use sources of support as appropriate 7. show initiative, work independently and be self-reliant 	<p>1.3.1 Inquiring mind</p> <p>1.3.5 Innovation</p> <p>1.3.1 Inquiring mind</p> <p>2.3.1 Continued professional development</p> <p>2.1.3 Perseverance</p> <p>2.2.5 Self reliance</p> <p>1.3.2 Intellectual effort (scholarship) <i>and</i></p> <p>2.2.5 Self reliance</p>
<p>(E) Communication Skills - to be able to:</p> <ol style="list-style-type: none"> 1. write clearly and in a style appropriate to purpose, e.g. progress reports, published documents, thesis 2. construct coherent arguments and articulate ideas clearly to a range of audiences, formally and informally through a variety of techniques 3. constructively defend research outcomes at seminars and viva examination 4. contribute to promoting the public understanding of one's research field 5. effectively support the learning of others when involved in teaching, mentoring or demonstrating activities 	<p>1.1.4 Literacy</p> <p>4.1.1 Modes (of communication)</p> <p>1.3.3 Argument power</p> <p>4.4.2 Public engagement</p> <p>4.2.3 Developing the potential of others</p>
<p>(F) Networking and Teamworking - to be able to:</p> <ol style="list-style-type: none"> 1. develop and maintain co-operative networks and working relationships with supervisors, colleagues and peers, within the institution and the wider research community 2. understand one's behaviours and impact on others when working in and contributing to the success of formal and informal teams 3. listen, give and receive feedback and respond perceptively to others 	<p>4.2.4 Networking</p> <p>4.2.2 Developing relationships and building teams</p> <p>4.2.1 Interacting constructively with others</p>
<p>(G) Career Management - to be able to:</p> <ol style="list-style-type: none"> 1. appreciate the need for and show commitment to continued professional development 2. take ownership for and manage one's career progression, set realistic and achievable career goals, and identify and develop ways to improve employability 3. demonstrate an insight into the transferable nature of research skills to other work environments and the range of career opportunities within and outside academia 4. present one's skills, personal attributes and experiences through effective CVs, applications and interviews 	<p>2.3.1 Continued professional development</p> <p>2.3.1 Continued professional development</p> <p>2.3.2 Opportunities</p> <p>2.3.6 Career management</p>

Table 2: A mapping of how the JSS has been incorporated in the Researcher development framework

Researcher development framework	Joint Skills Statement
Domain 1: Professional and intellectual attributes	
1.1 Knowledge base	
1. Subject knowledge	A3
2. Research methods (knowledge)	A4, B6
3. Research methods (practice)	
4. Literacy	E1
5. Numeracy	
6. Languages	
7. Information seeking	C3
8. Information management	C2, C4
1.2 Cognitive skills	
1. Analysis	A5
2. Critical thinking	A1, A2
3. Synthesis	
4. Evaluation	A6
5. Problem solving	
1.3 Creativity	
1. Inquiring mind	D1, D3
2. Intellectual effort (scholarship)	D7
3. Argument power	E3
4. Intellectual risk	
5. Innovation	D2
Domain 2: Personal effectiveness	
2.1 Personal qualities	
1. Enthusiasm	
2. Ambition	
3. Perseverance	D5
4. Self-confidence	
5. Self-reflection	
6. Responsibility	
7. Integrity	B3
2.2 Self-organisation	
1. Time management	
2. Strategic approach	
3. Focus	
4. Response to change	
5. Self-reliance	D6, D7
2.3 Career development skills	
1. Continual professional development	D4, G1, G2
2. Opportunities	G3
3. Portfolio	
4. Dissemination	B7
5. Authority	
6. Career management	G4

Domain 3: Research organisation and governance	
3.1 Professional conduct	
1. Health & safety	B4
2. Ethics	B2
3. Legal requirements	B2
4. Respect & confidentiality	B2
5. Attribution and co-authorship	B2
6. Copyright and IPR	B2
7. Appropriate practice	B2
3.2 Project management	
1. Project management and delivery	C1
2. Risk management	
3.3 Finance, funding and resources	
1. Income generation	B5
2. Financial management	
3. Infrastructure and resources	
Domain 4: Impact and influence	
4.1 Communicating effectively	
1. Modes	E2
2. Media	
4.2 Working with others and leadership	
1. Interacting constructively with colleagues	F3
2. Developing relationships and building teams	F2
3. Developing the potential of others	E5
4. Networking	F1
5. Influencing others	
4.3 Relating to the broader context	
1. Inter- intra- or trans-disciplinary awareness	
2. Organisational understanding and responsibility	
3. Socio-cultural and political awareness	
4. Environmental - physical awareness	
5. Global citizenship and internationalisation	B1
4.4 Application of research and knowledge exchange	
1. Teaching	
2. Public engagement	E4
3. Enterprise / entrepreneurship	B7
4. Public sector / policy	