

Researcher profile

This is a version of the Jisc **'Six elements of digital capabilities'** (http://ji.sc/digicap_ind_frame) model, designed for researchers and research students in higher education (HE). No one individual will have all of the capabilities included in this profile: it is intended to demonstrate how new areas of practice are emerging, and how individuals might use their digital skills in different areas of their designated roles.

The profile might be used in the following ways:

- » Researchers and research staff might use the profile to review their own digital scholarly practices and development needs
- » Research directors and supervisors, departmental leaders and managers might work with an individual researcher to ensure that their digital capabilities are fully recognised and credited, and discuss any development needs
- » Departments and research teams might use the profile to assess their collective strengths and weaknesses, and identify areas in which new digital skills need to be developed or recruited
- » Researchers in specific departments, institutes or research fields might use the profile to develop their own, more specialised version

The profile is only intended as one example of how the six elements might be interpreted and implemented. It is one of a number of profiles based on the 'Six elements' model. For more information on all profiles and other related resources please see the **Building digital capability project page** (<http://ji.sc/building-digicap>)

Vitae's Researcher Development Framework (RDF) articulates the knowledge, behaviours and attributes of successful researchers and encourages them to realise their potential. Elements of this digital profile have been cross-referenced to the descriptors of the RDF, in collaboration with Vitae. You should refer to vitae.ac.uk/rdf for full details of the RDF and Vitae's work. The Vitae Researcher Development Framework (RDF) is © 2010 Careers Research and Advisory Centre (CRAC) Limited.

| General ICT proficiency | |
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| ICT proficiency | <p>Use ICT-based devices, applications, software and services as required for research and scholarly activity; use basic productivity software, spreadsheets and writing/presentation software; use a web browser and web-based services; use digital capture devices such as a camera, audio recorder and associated editing software; use required institutional systems.</p> <p>Use specialised digital instruments, devices, software and systems as required by the field of study.</p> <p>Recover from failures; stay up to date with ICT as it evolves; adopt new systems, applications and approaches into research and scholarly practice as appropriate.</p> <p>Understand basic principles of computation, coding and information processing, especially as they apply to the field of research.</p> |
| ICT productivity | <p>Use ICT applications to support productivity and efficiency in the research process eg through time, task and project management, financial management, resource management.</p> <p>Work fluently across devices and applications to achieve complex tasks; find ICT solutions to problems that arise in the course of research and scholarly activity.</p> <p>Choose, adapt and personalise ICT applications and systems to meet personal needs and preferences (eg for accessibility); critically assess the benefits/constraints of ICT applications for specific research tasks.</p> <p>Understand how digital technologies are changing research and scholarly practice.</p> <p>Maps to Vitae RDF: Time management, Self-management, Preparation and prioritisation, Project planning and delivery, Financial management, Critical thinking, Problem solving, Information literacy and management, infrastructure and resources.</p> |
| Information, data and media literacies (critical use) | |
| Information literacy | <p>Find, evaluate, manage, curate, organise and share digital content for research and scholarship.</p> <p>Undertake secondary research/literature reviews by searching a range of databases, journals, indexes, portals, digital archives, web sites and data sources, as appropriate.</p> <p>Critically assess digital content sources and services for their relevance, accuracy and scholarly value.</p> <p>Reference and acknowledge the work of other scholars in whatever medium it is communicated.</p> <p>Develop a personal information environment tailored to research interests and needs, eg using notifications, filters, feeds.</p> <p>Understand the rules of copyright and open alternatives eg creative commons as they apply to digital information.</p> <p>Maps to Vitae RDF: Information seeking, Information literacy and management, IPR and copyright, Attribution and co-authorship.</p> |
| Data literacy | <p>Collate, access and use digital data in spreadsheets, databases, archives, corpora and other formats, including open data as appropriate. Run appropriate analyses and reports.</p> <p>Record research-related data in digital systems as required, ensuring data security, and following all relevant legal and ethical guidelines.</p> <p>Apply to the relevant ethical bodies for permission to collate and use research data.</p> <p>Understand how data is used in a range of research tasks; understand the nature of algorithms, and the potential risks as well as the benefits of collecting, managing and sharing digital data.</p> <p>Maps to Vitae RDF: Ethics, principles and sustainability, Legal requirements, Respect and confidentiality, Information literacy, Risk management.</p> |
| Media literacy | <p>Critically read and interpret scholarly messages in a range of digital media – text, graphical, video, animation and simulation, audio, data visualisations, presentations, wiki/blog articles.</p> <p>Choose and use media resources to express scholarly ideas with an awareness of design, audience, impact, accessibility.</p> <p>Reference and acknowledge the work of other scholars in whatever medium it is communicated.</p> <p>Understand the rules of copyright and open alternatives as they apply to digital media; know how to source openly licenced media for research and scholarly activities.</p> <p>Maps to Vitae RDF: Communication methods, Communication media, Attribution and co-authorship, IPR.</p> |

| Digital creation, problem solving and innovation (creative production) | |
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| Digital creation | <p>Use a range of digital media - text, images, video, audio, visualisations, infographics, presentations, podcasts and screencasts, blogs and web posts - to communicate research findings and scholarly ideas.</p> <p>Create other digital artefacts according to the subject of scholarship and the needs of stakeholders.</p> <p>Develop new research areas, questions and solutions relevant to a digital context.</p> <p>Understand the digital production process, and basics of editing and coding.</p> <p>Maps to Vitae RDF: Inquiring mind, Communication media, Innovation.</p> |
| Digital research and problem solving | <p>Collect research data securely and responsibly using digital methods where appropriate eg online surveys, data capture tools, video and audio recording, social and sharing media.</p> <p>Analyse data using qualitative and quantitative tools suitable to the research field and methodology.</p> <p>Use the outcomes of analysis to answer questions, validate/invalidate hypotheses, solve problems, develop new lines of enquiry.</p> <p>Manage research data securely within legal and ethical frameworks.</p> <p>Publish, present and share research findings in digital formats. Engage in public/open research where appropriate; repurpose/reuse open data where appropriate. Use digital tools and services to monitor research impact.</p> <p>Understand how digital technologies are changing the field of research with respect to questions and challenges, methods, theories and values.</p> <p>Maps to Vitae RDF: Research methods: theoretical knowledge, Research methods: practical application, Analysing, Synthesising, Critical thinking, Evaluating, Problem solving, Intellectual insight, Public engagement.</p> |
| Digital innovation | <p>Use digital tools to solve innovative problems and address new research questions.</p> <p>Develop new research questions, hypotheses and explanations, and explore new approaches relevant to the digital age.</p> <p>Adopt new research methods and practices with digital technology; identify and explore digital challenges and opportunities, digital tools and methods, and new ideas arising from the digital revolution.</p> <p>Understand how digital research can have impact and benefit in the wider world, and lead to new products, services and solutions.</p> <p>Maps to Vitae RDF: Analysing, Synthesising, Critical thinking, Evaluating, Problem solving, Intellectual insight, Innovation.</p> |
| Digital communication, collaboration and participation (participating) | |
| Digital communication | <p>Communicate about research and scholarship in a variety of digital media (eg text, video, social media, blog posts, publications, presentations).</p> <p>Design digital communications for a range of scholarly networks, purposes and audiences.</p> <p>Use digital networks to communicate across boundaries of nationality, culture and theoretical stance, and to communicate across subject specialisms to support interdisciplinary understanding. Use digital media for the public communication of research and scholarship.</p> <p>Maintain privacy of private communications, and respect in public communications; identify and challenge false or damaging digital communications according to specialist expertise.</p> <p>Understand the features of different digital media for communication, and the varieties of communication norms and needs.</p> <p>Maps to Vitae RDF: Respect and confidentiality, Communication methods, Communication media, Equality and diversity.</p> |
| Digital collaboration | <p>Participate in research teams using virtual environments and tools eg project management tools, shared calendars and tasks lists.</p> <p>Produce shared scholarly outputs using digital collaboration tools.</p> <p>Develop research partnerships, collaborative bids and outputs, shared processes and resources, using digital collaboration tools.</p> <p>Understand the features of different digital tools for collaboration, and the varieties of cultural and other norms for working together.</p> <p>Maps to Vitae RDF: Team working, People management, Collaboration, Publication.</p> |
| Digital participation | <p>Participate in, facilitate and build digital networks around scholarly issues and concerns.</p> <p>Create positive connections with researchers in diverse fields of expertise.</p> <p>Share and amplify messages across networks; share research data, references and resources.</p> <p>Behave safely and ethically in networked environments.</p> <p>Understand how digital media and networks influence social behaviour.</p> <p>Maps to Vitae RDF: Networking, Influence and leadership, Equality and diversity.</p> |

| Digital learning and development (development) | |
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| Digital learning | <p>Develop study practices such as note-making, argumentation, report writing, reference management, annotation, collation and review, using digital tools and apps.</p> <p>Identify and undertake learning and personal development opportunities using online resources and networks.</p> <p>Use digital tools to record events in the research process for planning, reflection and review; for self-analysis, reflection and monitoring of progress; to manage own time and tasks, attention and motivation in digital settings.</p> <p>Understand the opportunities and challenges involved in learning online.</p> <p>Maps to Vitae RDF: Academic literacy and numeracy, Preparation, Prioritisation, Continuing professional development, Responsiveness to opportunities.</p> |
| Digital teaching | <p>Support others (research colleagues, undergraduate students etc) to develop practices of digital scholarship.</p> <p>Use digital technologies to support teaching and public communication of research.</p> <p>Bring digital research practices into teaching where opportunities arise.</p> <p>Understand the educational value of different media for teaching, learning and assessment.</p> <p>Maps to Vitae RDF: Teaching, Public engagement, Mentoring.</p> |
| Digital identity and wellbeing (self-actualising) | |
| Digital identity | <p>Develop and project a positive digital identity or identities as a researcher.</p> <p>Model and promote the values of scholarship in digital settings: knowledge sharing; open peer review; acknowledging the work of others; integrity; transparency, critique; respectful argument; trusted methods; innovative thinking; working at and across boundaries.</p> <p>Manage CV and publications record; collate and curate scholarly materials across digital networks and platforms.</p> <p>Engage in open scholarship.</p> <p>Understand the reputational benefits and risks of digital participation as a researcher.</p> <p>Maps to Vitae RDF: Career management, Reputation and esteem, Global citizenship.</p> |
| Digital wellbeing | <p>Look after personal health, safety, relationships and work-life balance in relation to digital technology use, and support others to do the same (eg co-researchers)</p> <p>Consider the health of others and of the natural environment when using digital technologies in the research process.</p> <p>Cope with rapid change in the methods, tools, contexts and demands of research; manage digital workload, overload and distraction.</p> <p>Understand the benefits and risks of digital participation in relation to health and wellbeing outcomes.</p> <p>Maps to Vitae RDF: Responsiveness to change; Work-life balance, Ethics, principles and sustainability.</p> |

**Digital capabilities:
the six elements**

