

UNIVERSITY OF CANBERRA

RESEARCHER DEVELOPMENT SKILLS FRAMEWORK

It is important for researchers (including graduate researchers) to develop generic (also called transferrable, professional and soft) skills for degree completion, career progression, personal development and employability.

The Researcher Development team have designed the Researcher Development Skills Framework (RDSF) on [page 2](#). This articulates key areas in which researchers need to develop skills during their candidatures and/or careers.

The RDSF allows researchers to audit skills and identify gaps, and aligns with the UC ReD training program which provides opportunities to build skills and fill gaps.

RESEARCHER DEVELOPMENT SKILLS FRAMEWORK



RESEARCHER DEVELOPMENT SKILLS FRAMEWORK SECTIONS

The RDSF is made up of five components — a centre and four quadrants — which together cover both the discipline specific and generic skills needed by researchers.

Centre: Researcher and Research

The RDSF places you (the researcher) and your research at the centre. These core skills are unique to you and your research area.

For guidance, please consult with your supervisor, manager or HDR Convenor.

Quadrants

In addition to the centerpiece, the RDSF has four quadrants. Within each quadrant there are three skills categories which are then broken down into skills areas with examples, as illustrated over the following pages.

To help develop these skills refer to the workshops and resources advertised at canberra.edu.au/rdw



RESEARCHER AND RESEARCH

Subject Knowledge
Discipline Specific Skills
Intellectual Ability

QUADRANT 1

PERSONAL AND PROFESSIONAL DEVELOPMENT

Quadrant

Personal and Professional Development (Q1)



Skill Category

Self-Management (Q1.1)



Skill Area

Wellbeing

- Establish work/life balance
- Build resilience
- Undertake self-care
- Build confidence/self-esteem (e.g. avoid impostor syndrome)
- Manage stress and stressful situations
- Ensure a healthy workspace (e.g. regular breaks, ergonomic set up)

Time Management and Planning

- Manage time
- Prepare adequately for required tasks
- Apply a range of useful planning tools and technologies
- Prioritise key tasks and delegate tasks as required
- Show flexibility in overcoming obstacles

Goal Setting

- Identify key goals for future and set goals in writing
- Undertake self-reflection and be self-aware
- Ensure goals are SMART (Specific, Measurable, Attainable, Relevant, Time-Bound)
- Consider possible obstacles to achievement
- Involve others in your goal setting process

QUADRANT 1

PERSONAL AND PROFESSIONAL DEVELOPMENT

Quadrant

Personal and Professional Development (Q1)



Skill Category

Career Management (Q1.2)

Career Management

Skill Area

Career Planning and Coordination

- Build networks including referees and mentors
- Know your promotions indicators, plan and apply for promotion
- Manage job transitions
- Self-assess your current skills and career situation
- Develop a career strategy and investigate suitable career pathways
- Maintain portfolios as applicable (e.g. teaching or research)

Job Application Skills

- Investigate suitable positions and be aware of the current job market
- Adapt, design and write your CV/cover letter/EOI with the job in mind
- Respond to selection criteria using the appropriate format and language
- Develop and practise interview skills
- Ensure that you have a suitable online profile and use digital tools

Professional Development

- Identify professional development opportunities that fill skills gaps identified
- Engage in ongoing professional development in line with career goals
- Maintain records of career development for employment purposes

QUADRANT 1

PERSONAL AND PROFESSIONAL DEVELOPMENT

Quadrant

Personal and Professional Development (Q1)



Skill Category

Leadership and Interpersonal Skills (Q1.3)



Skill Area

Leadership

- Provide vision and strategy
- Give and receive constructive feedback
- Encourage communication between all members of the team
- Motivate and inspire others
- Build rapport and strong relationships
- Lead by example

Interpersonal Skills

- Work well with others
- Listen actively and be engaged when interacting with others
- Communicate with self-confidence
- Communicate clearly, including verbal and non-verbal cues
- Be reliable, punctual and deliver what was promised
- Understand the importance of empathy and how your behaviour affects others

Equity and Diversity

- Accommodate individual differences in learning and communication styles
- Know how to engage with diverse individuals (e.g. gender, race/ethnicity, religion, LGBTQI)
- Encourage a culturally inclusive environment
- Develop awareness of Aboriginal and Torres Strait Islander content, and encompass this in research and teaching where possible
- Make adjustments as necessary for those with access and inclusion requirements

QUADRANT 2

RESEARCH MANAGEMENT

Quadrant

Research Management (Q2)



Skill Category

Research Planning and Income Management (Q2.1)

Research Planning and Income Management

Skill Area

Research Project Development

- Identify funding opportunities
- Identify key support people/mentors to provide expertise/advice
- Create a research plan including a narrative and case
- Develop a budget
- Find possible academic and commercial research partners
- Understand types of funding and the funding lifecycle

Grant Seeking (Pre-Award)

- Prepare sections of a grant proposal
- Seek support from key people/partners
- Recognise common research funding mistakes, problems and pitfalls
- Seek and respond to feedback
- Apply for funding (e.g. write and submit grant applications)

Grant Management (Post-Award)

- Track milestones
- Manage stakeholders/collaborators
- Manage budgets
- Manage grant administration including reporting on progress

QUADRANT 2

RESEARCH MANAGEMENT

Quadrant

Research Management (Q2)



Skill Category

Data Management, Digital Literacy and Administration (Q2.2)

Data Management, Digital Literacy and Administration

Skill Area

Digital Literacy Tools

- Use reference management software (e.g. EndNote, Zotero)
- Use word processing software (e.g. Word, Scrivener, LaTeX, Pages)
- Use spreadsheet software (e.g. Excel, Numbers) including basic statistics and pivot tables
- Use quantitative and/or qualitative statistical packages (e.g. SPSS, R, NVivo)
- Use presentation software (e.g. PowerPoint, Prezi, Keynote)
- Use teaching technologies and LMS (e.g. Moodle, Blackboard, Canvas, Echo)
- Use suitable online resources for efficient research (e.g. Google Scholar, online research databases — Scopus, Web of Science, etc.)

Research Data Management

- Ensure data is kept securely, and is backed up regularly
- Manage data (including collecting and organising)
- Maintain version control and file naming practices
- Encourage practices of good stewardship around data, including open access
- Manage data IP and ownership in accordance with ethics around data management

Administrative Skills

- Manage administrative tasks in a timely manner ensuring adequate record keeping
- Manage calendar/diary
- Manage email load

QUADRANT 2

RESEARCH MANAGEMENT

Quadrant

Research Management (Q2)



Skill Category

Research Conduct, Ethics and Integrity (Q2.3)

Research Conduct,
Integrity and Ethics

Skill Area

Academic Integrity

- Keep informed as to what constitutes good academic practice
- Acknowledge the work of others
- Attribute work correctly including citing all sources used
- Complete ongoing research integrity training
- Manage resources in a way that will minimise unintentional plagiarism

Research Ethics

- Stay up to date on current ethics policy
- Obtain the required ethics clearance for your research
- Assess the ethics of the project through the research and writing phases
- Maintain the required ethics documentation and reporting
- Follow secure practices of data storage
- Undertake the required research ethics training

Responsible Research Conduct

- Follow safe work practices
- Ensure suitable research space induction processes for new colleagues and staff
- Be aware of potential risks and hazards and work to avoid them

QUADRANT 3 COMMUNICATION

Quadrant

Communication (Q3)



Skill Category

Academic Writing and Literacy (Q3.1)

Academic Literacy and Writing

Skill Area

Written Expression

- Use the appropriate academic style for your discipline
- Undertake ESL training
- Define terms as required
- Clarify key points
- Build persuasive arguments

Knowledge of Written Formats

- Compose different text types (e.g. book chapter, conference paper, journal article, etc.)
- Use the correct paragraph structure including topic sentences
- Provide summaries and analyses of the work of others
- Organise and manage the literature

Editing and Polishing

- Edit and proofread written documents
- Maintain consistency in long documents
- Seek feedback on written work and consult with others

QUADRANT 3 COMMUNICATION

Quadrant

Communication (Q3)



Skill Category

Verbal and Visual Presentation Skills (Q3.2)

Verbal and Visual Presentation Skills

Skill Area

Verbal Skills

- Ensure vocal clarity and clear pronunciation
- Compose speeches and use storytelling to engage audiences
- Speak persuasively
- Pitch ideas, and develop pitches for different audiences
- Adapt the message to the audience

Visual Skills

- Design effective slides and visual aids for presentations
- Use suitable images that comply with copyright
- Present information visually in a format that is suitable for the task (e.g. infographic, concept map, Gantt chart, network diagrams)

Reflection, Listening and Asking Questions

- Provide constructive comments and feedback
- Think critically about what is being presented
- Formulate thoughtful questions
- Listen actively
- Engage with the work of others

QUADRANT 3 COMMUNICATION

Quadrant

Communication (Q3)



Skill Category

Publication and Dissemination (Q3.3)

Publication and Dissemination

Skill Area

Preparing for Publication

- Develop a publication plan keeping in mind publishing schedules/ timeframes
- Select suitable destinations for your publications (journal, book, etc.) based on research impact and avoid predatory publishers
- Understand open access requirements (green, gold and hybrid), implications and costs
- Identify the key gaps that your publication will be meeting
- Determine co-author roles and responsibilities

Compiling and Submitting

- Compile the publication in a timely manner
- Edit and proofread submission keeping in mind the instructions to authors
- Check references are correct and suitable for the publisher
- Obtain required image permissions and check that images are in correct electronic format, resolution, etc.

Post-Submission and Other Publication Process Skills

- Respond appropriately to feedback within the allocated timeframe
- Edit for a journal and conduct peer review
- Publicise new publications (e.g. tweet publication, let authors know that you have cited them, add publication to email signature)
- Send information of published work to Research Office/Research Repository (e.g. Pure)

QUADRANT 4

ENGAGEMENT AND IMPACT

Quadrant

Engagement and Impact (Q4)



Skill Category

Outreach and Influence (Q4.1)

Outreach and Influence

Skill Area

Profile Building

- Build your personal brand and make yourself visible and accessible
- Evaluate your impact using metrics and alt-metrics
- Communicate the 'so what' of your research (research value proposition)
- Establish and maintain professional profile accounts (e.g. ResearchGate, Academia.edu, LinkedIn)
- Maintain a social media presence and know how to optimise it
- Write impact statements
- Obtain and maintain an ORCID ID and populate it with your publications

Media Skills

- Contribute to media (e.g. television, radio, print media)
- Make your message interesting and relatable
- Build relationships with the media
- Adapt content for the medium

Wider Community Engagement Skills (Public)

- Engage lay audiences
- Be involved in public debate
- Influence policy and provide submissions to government (e.g. Senate inquiries)
- Take research into the community
- Contribute to industry and NGOs

QUADRANT 4

ENGAGEMENT AND IMPACT

Quadrant

Engagement and Impact (Q4)



Skill Category

Knowledge Exchange and Innovation (Q4.2)

Knowledge Exchange and Innovation

Skill Area

Innovative Thinking/Planning

- Identify commercial value and potential commercial/start up pathways
- Identify key support people/mentors to provide expertise/advice
- Understand user engagement strategies and end user needs
- Explore options: consultancies, internships, sponsored research arrangements and licencing
- Identify potential clients and markets and build relationships
- Manage your IP including patents, copyright, trademarks and designs
- Recognise the commercial, social and environmental impacts of your research

Opportunity Seeking

- Present commercial pitches
- Network/make professional connections and leverage them
- Negotiate
- Build partnerships with industry (e.g. HDR/ECR industry internships)
- Scope and cost potential projects
- Solicit and respond to feedback

Opportunity Management

- Be aware of and manage commercial obligations and risk
- Manage stakeholders/partners/collaborators
- Report on progress (meet requirements)
- Manage finances and administration
- Manage and meet expectations

QUADRANT 4

ENGAGEMENT AND IMPACT

Quadrant

Engagement and Impact (Q4)



Skill Category

Education (Q4.3)



Skill Area

Research-led Teaching

- Communicate effectively and present research in an engaging way, including in online environments
- Ensure that research-led teaching and assessment addresses learning outcomes
- Design curriculum keeping in mind the need for active, student centred, problem based, experiential and collaborative learning
- Select and use appropriate teaching and learning technologies for research-led teaching
- Give comprehensive, structured and actionable feedback that promotes learning
- Evaluate teaching practice and employ reflective practice

Supervision

- Set expectations around the supervisory relationship
- Engage in ongoing training and professional development around supervision
- Provide constructive and timely feedback
- Monitor student progress and wellbeing

Mentoring

- Share knowledge and skills
- Build a rapport
- Ask suitable questions and provide sound advice
- Encourage mentees to pursue opportunities and to take strategic risks
- Manage and meet expectations