



# Research Skill Development Framework

A conceptual framework for the explicit, coherent, incremental and spiralling development of students' research skills

## Extent of Students' Autonomy

What characterises the difference between 'search' and 'research'? More searching and more data generation is just a 'bigsearch'! Research is **when students...**

		Level 1 (Prescribed Research)	Level 2 (Bounded Research)	Level 3 (Scaffolded Research)	Level 4 (Student-initiated Research)	Level 5 (Open Research)
<b>Facets of Research</b>	<b>a. Embark &amp; Clarify</b> Respond to or initiate research and clarify or determine what knowledge is required, heeding ethical/cultural and social/team considerations.	Curious Respond to questions/tasks arising explicitly from a closed inquiry. Use a provided structured approach to clarify questions, terms, requirements and expectations.	Respond to questions/tasks required by and implicit in a closed inquiry. Choose from several provided structures to clarify questions, terms, requirements and expectations.	Respond to questions/tasks generated from a closed inquiry. Choose from a range of provided structures or approaches to clarify questions, terms, requirements and expectations.	<i>*Generate questions/aims/hypotheses framed within structured guidelines*.</i>	<i>*Generate questions/aims/hypotheses based on experience, expertise and literature*.</i>
	<b>b. Find &amp; Generate</b> Find and generate needed information/data using appropriate methodology.	Determined Collect and record required information or data using a prescribed methodology from a prescribed source in which the information/data is clearly evident.	Collect and record required information/data using a prescribed methodology from prescribed source/s in which the information/data is not clearly evident.	Collect and record required information/data from self-selected sources using one of several prescribed methodologies.	Collect and record self-determined information/ data from self-selected sources, choosing an appropriate methodology based on structured guidelines.	Collect and record self-determined information/data from self-selected sources, choosing or devising an appropriate methodology with self-structured guidelines.
	<b>c. Evaluate &amp; Reflect</b> Determine and critique the degree of credibility of selected sources and of data generated, and reflect on the research processes used.	Discerning Evaluate information/data and reflects on inquiry process using simple prescribed criteria.	Evaluate information/data and reflect on the inquiry process using given criteria.	Evaluate information/data and inquiry process using criteria related to the aims of the inquiry. Reflect insightfully to improve own processes used.	Evaluate information/data and the inquiry process comprehensively using self-determined criteria developed within structured guidelines. Reflect insightfully to refine others' processes.	Evaluate information/data and inquiry process rigorously using self-generated criteria based on experience, expertise and the literature. Reflect insightfully to renew others' processes.
	<b>d. Organise &amp; Manage</b> Organise information and data to reveal patterns and themes, and manage teams and research processes.	Harmonising Organise information/data using prescribed structure. Manage linear process provided.	Organise information/data using a choice of given structures. Manage a process which has alternative pathways.	Organise information/data using recommended structures. Manage self-determined processes with multiple possible pathways.	Organise information/data using student-determined structures, and manage the processes, within the parameters set by the guidelines.	Organise information/data using student-determined structures and management of processes.
	<b>e. Analyse &amp; Synthesise</b> Analyse information/data critically and synthesise new knowledge to produce coherent individual/team understandings.	Creative Analyse and synthesise information/data to reproduce existing knowledge in prescribed formats. <i>*Ask emergent questions of clarification/curiosity*.</i>	Analyse and synthesise information/data to reorganize existing knowledge in standard formats. <i>*Ask relevant, researchable questions emerging from the research*.</i>	Analyse and synthesise information/data to construct emergent knowledge. <i>*Ask rigorous, researchable questions based on new understandings*.</i>	Analyse and create information/data to fill knowledge gaps stated by others.	Analyse and create information/data to fill student-identified gaps or extend knowledge.
	<b>f. Communicate and Apply</b> Write, present and perform the processes, understandings and applications of the research, and respond to feedback, accounting for ethical, social and cultural (ESC) issues.	Constructive Use mainly lay language and prescribed genre to demonstrate understanding for lecturer/ teacher as audience. Apply to a similar context the knowledge developed. Follow prompts on ESC issues.	Use some discipline-specific language and prescribed genre to demonstrate understanding from a stated perspective and for a specified audience. Apply to different contexts the knowledge developed. Specify ESC issues.	Use discipline-specific language and genres to demonstrate scholarly understanding for a specified audience. Apply the knowledge developed to diverse contexts. Specify ESC issues in initiating, conducting and communicating.	Use discipline-specific language and genres to address gaps of a self-selected audience. Apply innovatively the knowledge developed to a different context. Probe and specify ESC issues in each relevant context.	Use appropriate language and genre to extend the knowledge of a range of audiences. Apply innovatively the knowledge developed to multiple contexts. Probe and specify ESC issues that emerge broadly.

... spiral through the facets, adding degrees of rigour and discernment as they dig and delve.

Research Skill Development (RSD), a conceptual framework for Primary school to PhD, developed by John Willison and Kerry O'Regan ©, October, 2006/November, 2012. Facets based on: ANZIL (2004) Standards & Bloom's et al (1956) Taxonomy. *\* Framing researchable questions often requires a high degree of guidance and modelling for students and, initially, may need to be scaffolded as an outcome of the researching process (Facet E, Levels 1-3). After development, more students are able to initiate research (Facet A, Levels 4 & 5)\*.* The perpendicular font reflects the drivers and emotions of research. Framework, resources, learning modules and references available at <http://www.rsd.edu.au>. For info: john.willison@adelaide.edu.au