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john.willison@adelaide.edu.au

# Researcher Skill Development Framework

A conceptual framework for the explicit, coherent, incremental and cyclic development of the skills associated with researching. © Aug 2008/March 2013 John Willison, Kerry O'Regan.

← supervisor initiated → ← researcher initiated → ← discipline building →

Researcher Skills...		Prescribed Research Highly structured directions and modelling from supervisor prompt the research.	Bounded Research Boundaries set by and limited directions from supervisor channel research.	Scaffolded Research Scaffolds placed by supervisor shape the independent research.	Researcher-initiated Researchers initiate and supervisors guide.	Open Research Research is within self-determined guidelines that are in accord with discipline or context.	Adopted Research Research informs others' agendas.	Enlarging Research Research enlarges the field of inquiry.
Facets of Research	<b>b. Embark &amp; Clarify</b> Respond to or initiate research and clarify or determine what knowledge is required, heeding ethical/cultural and social/team considerations.	Respond to questions/tasks arising explicitly from a closed inquiry. Use a provided approach to clarify questions and expectations.	Respond to questions/tasks implicit in a closed inquiry. Choose from several provided structures to clarify questions and requirements.	Respond to questions /tasks generated from a closed inquiry. Choose from a range of provided structures or approaches to clarify salient elements.	<i>*Generate questions/aims/hypotheses framed within structured guidelines*.</i>	<i>*Generate questions/aims/hypotheses based on experience, expertise and literature*.</i>	Identify previously unstated gaps in literature and articulate research directions in response to them.	Articulate research directions that expand the field and followed by it.
	<b>b. Find &amp; Generate</b> Find and generate needed information/data using appropriate methodology.	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, choosing an appropriate methodology based on structured guidelines.	Collect and record self-determined information/ data, choosing or devising an appropriate methodology.	Synthesise others' methods to formulate novel methods/ methodologies or apply existing methods to novel applications.	Generate new methods/methodologies that are used widely.
	<b>c. Evaluate &amp; Reflect</b> Determine and critique the degree of credibility of selected sources, information and of data generated and reflect on the research processes used.	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 using self-determined criteria developed within structured guidelines. Refines others' processes.	Evaluate information/data and inquiry process using self-generated criteria based on experience, expertise and the literature. Renews others' processes.	Generate substantial research outcomes, so that ideas, practices or interpretations are cited/implemented by others.	Generate substantial research outcomes, so that ideas, practices or interpretations become foundational in field or discipline.
	<b>d. Organise &amp; Manage</b> Organise information and data to reveal patterns and themes, and manage teams and research processes.	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 self-determined structures, and manage the processes, within supervisor's parameters.	Organise information/data using student-determined structures and management of processes.	Form a research team or a team of community-based practitioners.	Form and develop research networks/communities.
	<b>e. Analyse &amp; Synthesise</b> Analyse information/data critically and synthesise new knowledge to produce coherent individual/team understandings.	Analyse and synthesise information/data to reproduce existing knowledge in prescribed formats. <i>*Ask emergent questions.</i>	Analyse and synthesise information/data to reorganize existing knowledge in standard formats. <i>*Ask relevant, researchable questions.</i>	Analyse and synthesise information/data to construct emergent knowledge. <i>*Ask rigorous, researchable questions.</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.	Synthesise others' concepts or interpretations to frame novel outcomes. May also address substantial concerns of a community.	Develop new concepts or interpretations that expand the field or discipline. May also address substantial concerns across communities.
	<b>f. Communicate &amp; Apply ethically</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.	Use prescribed genre to demonstrate understanding. Apply to a similar context the knowledge developed. Follow prompts on ESC issues.	Use 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. Clarify ESC issues.	Use discipline-specific language and genres to demonstrate scholarly understanding for a specified audience. Apply the findings to diverse contexts. Specify ESC issues in initiating, conducting, 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.	Change the conversation within the discipline/field through publicly- available communication of knowledge/understanding. Articulate and promote ESC issues.	Change the direction of the conversation across disciplines/ fields. Articulates and promote ESC issues previously unstated.