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Researcher Skill Development Framework

For educators to facilitate the explicit, coherent, incremental, and cyclical development of the skills associated with researching, problem solving, critical thinking and clinical reasoning.

### Students’ Autonomy when Researching

<table>
<thead>
<tr>
<th>Prescribed Researching</th>
<th>Bounded Researching</th>
<th>Scaffolded Researching</th>
<th>Open-ended Researching</th>
<th>Unbounded Researching</th>
</tr>
</thead>
<tbody>
<tr>
<td>Highly structured directions and modelling from educator prompt, researching, in which...</td>
<td>Boundaries set by and limited directions from educator channel researching, in which...</td>
<td>Scaffolds placed by educator shape independent researching, in which...</td>
<td>Students initiate research and this is guided by the educator...</td>
<td>Students determined guidelines for researching that are in accord with discipline or context...</td>
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</tbody>
</table>

#### Facets of Research

**Researcher Skill Development (RSD), a conceptual framework for Primary School to PhD, developed by John Willison and Kerry O’Regan, with much trialling by Eleanor Peirce and Mario Ricci. October 2006, revised March 2016. Facets based on: ANZIIL (2004) Standards and Bloom’s et al. (1959) Taxonomy, Extent of Synthesis informed by SCOL taxonomy (Biggs & Collis, 1982).** Framing researchable questions often requires a high degree of guidance and modelling for students, resulting from their synthesis (Read, Orange, Yellow) then initiating their research (Green and Blue). The six facets are often used directly with students as a ‘teaching routine’ (Richhant & Perkins 2008). The perpendicular font reflects dispositions towards research. Framework, resources and references available at [www.rsd.edu.au](http://www.rsd.edu.au). Information: john.willison@adelaide.edu.au.

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**Curious**

- Embark & Clarify
  - What is our purpose? Students respond to or initiate research & clarify what knowledge is required, considering ECST issues.
  - Students respond to questions/tasks arising explicitly from a closed inquiry. Use a provided structured approach to clarify questions, terms, requirements, expectations & ECST issues.
- Find & Generate
  - What do we need? Students find & generate needed information/data using appropriate methodology.
  - Students collect & record required information/data using a prescribed methodology from a prescribed source from which the information/data is evident.
  - Students evaluate sources/information/data using simple prescribed criteria to specify credibility & to reflect on the research process.
- Create

**Determined**

- Evaluate & Reflect
  - What do we trust? Students determine the credibility of sources, information & data, & make own research processes visible.
  - Students evaluate sources/information/data using simple prescribed criteria to specify credibility & to reflect on the research process.
  - Students collect & record appropriate information/data using a choice of provided methodologies.
  - Students evaluate sources/information/data using a choice of provided criteria to specify credibility & to reflect on the research process.

**Harmonizing**

- Organize & Manage
  - How do we arrange? Students organise information & data to reveal patterns/themes, managing teams & processes.
  - Students organise information/data using a prescribed structure. Manage self-determined processes (including teams) with multiple possible pathways.
  - Students organise information/data using recommended structures. Manage self-determined processes (including team function) within the parameters set.
  - Students organise information/data using self-determined structures and management of processes (including team function).

**Creative**

- Analyze & Synthesize
  - What does it mean? Students analyze information/data critically & synthesize new knowledge to produce coherent individual/team understandings.
  - Students interpret various sources of information/data & synthesize knowledge into prescribed formats. See patterns. "Ask emergent, relevant & researchable questions."
  - Students interpret several sources of information/data & synthesize to fully integrate component parts in structures appropriate to task. "Ask rigorous, researchable questions based on new understandings."
  - Students analyse trends in information/data & synthesise to fully integrate component parts in structures appropriate to task. "Ask emergent, relevant & researchable questions."

- Communicate & Apply
  - How will we relate? Students discuss, listen, write, respond to feedback & perform the processes, understandings & applications of the research, heed ECST issues and needs of audiences.
  - Students interpret given information/data & synthesize knowledge into prescribed formats. Sees patterns. "Ask emergent, relevant & researchable questions."
  - Students use prescribed genre to develop & demonstrate understanding to a pre-specified audience. Apply the knowledge developed to a similar context & follow prompts on ECST issues.
  - Students use some discipline-specific language & genres to demonstrate scholarly understanding for a specified audience. Apply to several similar contexts the knowledge developed & specify ECST issues.

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**Unbounded**

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**US English version, adapted by Sara K. Kuhn, UND**