# Research Skill Development Framework

A framework for educators to facilitate the explicit, coherent, incremental and cyclic development of the skills associated with researching, problem solving, critical thinking and clinical reasoning.

## Extent of Students' Autonomy

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

### Critical Knowledge

- Respond to questions/tasks arising explicitly from a closed inquiry. Use a prescribed structured approach to clarify questions, terms, requirements, expectations and ECST issues.

- Respond to questions/tasks generated from a closed inquiry. Choose from several provided structures to clarify questions, terms, requirements, expectations and ECST issues.

- Respond to questions/tasks given from a closed inquiry. Use the prescribed methodology from a pre-determined source(s) in which the information/data is not clearly evident.

- *Generate questions/aims/hypotheses framed within structural guidelines*.

- *Generate questions/aims/hypotheses based on experience, expertise and literature*.

- Delve into and prepare for ECST issues.

- Embark & Clarify

- Find & Generate

- Evaluate & Reflect

- Organise & Manage

- Analyse & Synthesise

- Communicate & Apply

- **Curious**

- **Determined**

- **Discerning**

- **Harmonising**

- **Creative**

## Factuals of Research

- Collect and record required information/data from self-selected sources using one of several provided methodologies.

- Collect and record self-determined information/data from self-selected sources, choosing an appropriate methodology based on parameters set.

- Collect and record self-determined information/data from self-selected sources, choosing an appropriate methodology with self-structured guidelines.

- **Collect and record required information/data in which the information/data is clearly evident.**

- **Collect and record required information/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 a prescribed source in which the information/data is clearly evident.**

- **Collect and record required information/data in which the information/data is clearly evident.**

- **Collect and record required information/data in which the information/data is clearly evident.**

- **Evaluate sources/information/data using appropriate methodology.**

- **Organise information/data using prescribed structure. Manage linear process provided (with pre-specified team roles).**

- **Organise information/data using recommended structures. Manage self-determined processes (including team function) with multiple possible pathways.**

- **Organise information/data using self-determined structures, and manage the processes (including team function) within the parameters set.**

- **Organise information/data using self-determined structures and management of processes (including team function).**

- **Evaluate sources/information/data using a choice of provided criteria to specify credibility and to reflect on the research process.**

- **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 parameters given. 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.**

- **Interpret given information/data and synthesise knowledge into prescribed formats. “Ask emergent questions of clarification/curiosity”.**

- **Interpret several sources of information/data and synthesise to fully integrate component parts in structures appropriate to task. “Ask rigorous, researchable questions based on emerging understandings”.**

- **Analyze trends in information/data and synthesise to fully integrate component parts in structures appropriate to task. “Ask rigorous, researchable questions based on emerging understandings”.**

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- **Analyze trends in information/data and synthesise to fully integrate component parts in structures appropriate to task. “Ask rigorous, researchable questions based on emerging understandings”.**

- **Interpret several sources of information/data and synthesise to integrate knowledge into standard formats. “Ask relevant, researchable questions emerging from the research”.**

- **Analyze trends in information/data and synthesise to fully integrate component parts in structures appropriate to task. “Ask rigorous, researchable questions based on emerging understandings”.**

- **Analyze trends in information/data and synthesise to fully integrate component parts in structures appropriate to task. “Ask rigorous, researchable questions based on emerging understandings”.**

- **Communicate & Apply**

- **Use prescribed genre to develop and demonstrate understanding. Apply to a similar context the knowledge developed. Follow prompts on ECST issues.**

- **Use some discipline-specific language and prescribe genre to demonstrate scholarly understanding for a specified audience. Apply to different contexts the knowledge developed. Specify ECST issues.**

- **Use discipline-specific language and genres to address gaps of a self-selected audience. Apply innovatively the knowledge developed to diverse contexts. Specify ECST issues in initiating, conducting and communicating.**

- **Use appropriate language and genres to extend the knowledge of a range of audiences. Apply innovatively the knowledge developed to multiple contexts. Probe and specify ECST issues that emerge broadly.**

## Prescribed Research Framework (RSD), a conceptual framework for Primary School to PhD, developed by John William and Kerry O’Regan, with much helping by Eleanor Paine and Maria Rizzio. October 2006, revised 2015. Facets based on: ANZILL (2004) Standards & Bloom’s et al. (1956) Taxonomy. Extent of Synthesis informed by SOLO taxonomy (Biggs & Collis, 1982). *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 research process (Analysis, Extent 1:3).* After development, more students are able to initiate research (Embark, Extent 4 & 5). The perpendicular font reflects the drivers and emotions of research. Framework, resources, learning modules, videos and references available at www.rsd.edu.au. Information: john.willison@adelaide.edu.au