Keeping the library in sight: refocusing the research skills curriculum through the lens of the RSD

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Monash University Library
Overview

- Some challenges we face
- Monash University Library Model - Research & Learning Teams
- Finding common ground, igniting conversations
- Adopting the RSD
- Growing the RSD Community of Practice
- Teaching how to RSD
- An RSD application: mapping skills
- Benefits of RSD approaches
- Getting started and sustaining the initiative
The challenge

- Embedding, evidencing and assessing students’ research skills in curricula still remains largely unclear, aspirational and difficult to realise as an institutionally driven educational strategy.

- Extensively debated in the literature for the past 2 decades.

- Academic structures & hierarchies disconnect rather than connect educational professionals.

- Perceptions & misconceptions of the library’s role within the learning and teaching agenda.

- Who owns the curriculum?
Research and Learning Teams

Clarifying research requirements
Navigating & finding information
Evaluating resources
Organising & managing information
Analysing & synthesising information
Academic integrity
Ethical use of information

Academic language skills
Study methods & Exam preparation
Listening & note taking
Problem solving & critical thinking
Reading strategies
Essay, report, project & thesis writing
Oral communication & presentation skills
Conversations around the placemat

Research Skill Development Framework

A conceptual framework for the explicit, coherent, incremental and cyclic development of the skills associated with researching, problem solving and critical thinking

<table>
<thead>
<tr>
<th>Extent of Students’ Autonomy</th>
<th>Level 1 (Prescribed Research)</th>
<th>Level 2 (Bounded Research)</th>
<th>Level 3 (Scaffolded Research)</th>
<th>Level 4 (Student-initiated Research)</th>
<th>Level 5 (Open Research)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Highly structured directions and modelling from educator prompt student research</td>
<td>Boundaries set by and limited directions from educator channel student research</td>
<td>Scaffolds placed by educator shape student independent research</td>
<td>&quot;Generate questions/aims/hypotheses framed within structured guidelines&quot;.</td>
<td>Students initiate the research and this is guided by the educator</td>
<td>Students research within self-determined guidelines that are in accord with discipline or context.</td>
</tr>
<tr>
<td>a. Embark &amp; Clarity Respond to or initiate research and clarify or determine what knowledge is required, heeding ethical/cultural and social/team considerations.</td>
<td>Respond to questions/tasks arising explicitly from a closed inquiry. Use a provided structured approach to clarify questions, terms, requirements and expectations.</td>
<td>Respond to questions/tasks generated from a closed inquiry. Choose from several provided structures to clarify questions, terms, requirements and expectations.</td>
<td>&quot;Generate questions/aims/hypotheses framed within structured guidelines&quot;.</td>
<td>Collect and record self-determined information/data from self-selected sources, choosing an appropriate methodology based on self-structured guidelines.</td>
<td>Collect and record self-determined information/data from self-selected sources.</td>
</tr>
<tr>
<td>b. Find &amp; Generate Find and generate needed information/data using appropriate methodology.</td>
<td>Collect and record required information/data using a prescribed methodology from a prescribed source in which the information/data is not clearly evident.</td>
<td>Collect and record required information/data from one of several prescribed methodologies.</td>
<td>Collect and record self-determined information/data from self-selected sources, choosing an appropriate methodology based on self-structured guidelines.</td>
<td>Collect and record self-determined information/data from self-selected sources.</td>
<td></td>
</tr>
<tr>
<td>c. Evaluate &amp; Reflect Evaluate information/data and reflects on inquiry process using simple prescribed criteria.</td>
<td>Evaluate information/data and reflects on the inquiry process using given criteria.</td>
<td>Evaluate information/data and inquiry process using criteria related to the aims of the inquiry. Reflect insightfully to improve own processes used.</td>
<td>Evaluate information/data and the inquiry process comprehensively using self-determined criteria developed within structured guidelines. Reflect insightfully to refine others’ processes.</td>
<td>Evaluate information/data and inquiry process rigorously using self-generated criteria based on experience, expertise and the literature. Reflect insightfully to renew others’ processes.</td>
<td></td>
</tr>
<tr>
<td>e. Analyse &amp; Synthesise Analyse information/data critically and synthesise new knowledge to produce coherent individual/team understandings.</td>
<td>Analyse and synthesise information/data to reorganize existing knowledge in standard formats. &quot;Ask emergent questions of clarification/curiosity&quot;.</td>
<td>Analyse and synthesise information/data to construct emergent knowledge. &quot;Ask rigorous, researchable questions based on new understandings&quot;.</td>
<td>Analyse and create information/data to fill knowledge gaps stated by others.</td>
<td>Analyse and create information/data to fill student-generated gaps or extend knowledge.</td>
<td></td>
</tr>
<tr>
<td>f. Communicate &amp; Apply ethically Write, present and perform the processes, understandings and applications of the research, and respond to feedback, accounting for ethical, social and cultural (ESC) issues.</td>
<td>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.</td>
<td>Use discipline-specific language and genres to address gaps of a self-selected audience. Apply innovatively the knowledge developed to different contexts. Probe and specify ESC issues in initiating, conducting and communicating.</td>
<td>Use discipline-specific language and genres to address gaps of a self-selected audience. Apply innovatively the knowledge developed to different contexts. Probe and specify ESC issues in each relevant context.</td>
<td>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.</td>
<td></td>
</tr>
</tbody>
</table>

Monash Strategic Plan, 2011-2015
“To embed the RSD framework across all faculties”

Initiate
2009-2011
Enlisting involvement
Library Directors
Faculty Team Leaders
Librarians
Learning Skills Advisers
 Discipline academics

Adopt
2011-2013
Existing library structures
Identify library champions
Novice-expert model
Personal Agency
Professional risk taking
Peer Learning – formal and informal
Pedagogical approaches for skill development
Cost-neutral
Community of Practice

Implement
2012-current
Sustainable strategies
Workshops (BaF)
RSD module GCAP
RSD Symposium 2012
Involvement in OLT, ALTC research projects
Curriculum review & renewal, skills mapping, skills audits
RSD informed curriculum design & delivery
Assessment-rubrics workshops
Sharing the RSD at National & International workshops

Growing the RSD organically through a Community of Practice

“...a democratic and professional path to improvement that builds from the bottom, steers from the top, and provides support and pressure from the sides...committed and capable of creating deep and broad teaching and learning, it builds powerful, responsible and lively professional communities...”

(Hargreaves and Shirley, p. 107).

“The RSD workshops were invaluable for introducing a different way of thinking about research itself, and about research methods - as a cycle of continual learning and development, and as a framework of skills. What students learned most was about seeing themselves as researchers, a point we often forget to make in teaching on research methods.”

Academic, Faculty of Arts, Monash University.
Mapping to evidence skill development

<table>
<thead>
<tr>
<th>Nodes</th>
<th>Name</th>
<th>Sources</th>
<th>References</th>
<th>Created On</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Embark and Clarify (define, question, hypothesise, predict, plan, design)</td>
<td>12</td>
<td>179</td>
<td>10/08/2014</td>
</tr>
<tr>
<td></td>
<td>Familiarises, clarifies and contextualises topic using text, diagrams, visuals</td>
<td>8</td>
<td>24</td>
<td>06/03/2015</td>
</tr>
<tr>
<td></td>
<td>Clarifies purpose, objectives, steps and design of the experiment</td>
<td>1</td>
<td>4</td>
<td>30/05/2015</td>
</tr>
<tr>
<td></td>
<td>Determines and plans processes, procedures required to undertake the experiment, task</td>
<td>9</td>
<td>70</td>
<td>01/03/2015</td>
</tr>
<tr>
<td></td>
<td>Asks questions for clarification</td>
<td>7</td>
<td>23</td>
<td>06/03/2015</td>
</tr>
<tr>
<td></td>
<td>Defines key concepts, terms, ideas and theories</td>
<td>7</td>
<td>34</td>
<td>07/04/2015</td>
</tr>
<tr>
<td></td>
<td>Predicts and formulates a hypothesis</td>
<td>2</td>
<td>5</td>
<td>03/03/2015</td>
</tr>
<tr>
<td></td>
<td>Plans and sets a time management strategy</td>
<td>3</td>
<td>3</td>
<td>06/03/2015</td>
</tr>
<tr>
<td></td>
<td>Considers the scientific issue in relation to ethical, social, team considerations</td>
<td>2</td>
<td>4</td>
<td>15/03/2015</td>
</tr>
<tr>
<td></td>
<td>Aware of and complies with laboratory health and safety requirements including laboratory protocols</td>
<td>6</td>
<td>13</td>
<td>06/03/2015</td>
</tr>
<tr>
<td></td>
<td>Find and Generate (select, apply methodology, find and utilise resources to support understandings and processes, collect and gather information)</td>
<td>8</td>
<td>63</td>
<td>10/08/2014</td>
</tr>
<tr>
<td></td>
<td>Applies procedures, techniques to find and generate needed information or data (Q devise strategies)</td>
<td>7</td>
<td>19</td>
<td>17/04/2015</td>
</tr>
<tr>
<td></td>
<td>Finds and identifies required information, data within resources</td>
<td>0</td>
<td>0</td>
<td>30/05/2015</td>
</tr>
<tr>
<td></td>
<td>Selects and uses information and data based on identified needs, parameters or criteria</td>
<td>5</td>
<td>15</td>
<td>15/03/2015</td>
</tr>
<tr>
<td></td>
<td>Collects required information or data form a variety of sources</td>
<td>1</td>
<td>5</td>
<td>30/05/2015</td>
</tr>
<tr>
<td></td>
<td>Records required information or data using appropriate methodologies</td>
<td>4</td>
<td>5</td>
<td>01/06/2015</td>
</tr>
<tr>
<td></td>
<td>Evaluate and Reflect (establish criteria, assess, revise, choose, distinguish, recommend, rate, review)</td>
<td>11</td>
<td>79</td>
<td>10/08/2014</td>
</tr>
<tr>
<td></td>
<td>Checks, reviews processes, steps, methodology, information seeking strategies</td>
<td>9</td>
<td>34</td>
<td>06/03/2015</td>
</tr>
<tr>
<td></td>
<td>Critique and judge credibility of information or data (accuracy, reliability, validity, authority, relevance)</td>
<td>5</td>
<td>10</td>
<td>06/03/2015</td>
</tr>
<tr>
<td></td>
<td>Considers and predicts results in information retrieved or data generated</td>
<td>1</td>
<td>1</td>
<td>01/06/2015</td>
</tr>
<tr>
<td></td>
<td>Asses when processes, information or data is inadequate, omitted, shows bias, error</td>
<td>5</td>
<td>9</td>
<td>06/03/2015</td>
</tr>
</tbody>
</table>
Stay relevant: link to current educational agendas and other frameworks
From Primary to PhD: adapting the RSD for K-7

Research Mountain
To the tune of ‘She’ll be coming Round the Mountain When She comes’.

Lyrics by Marsha Seebohm, Elizabeth North Primary School Music Teacher, K-7, based on the six facets of the RSD www.rsd.edu.au

- Plans for as RSD sub-site for schools (UoA website)
- Current RSD research is exploring K-Year 10 (maybe including one remote NSW school)
- RSD is not yet evaluated in schools (If interested, please contact Lyn Torres or John Willison)
Student Research Independence Continuum

Prescribed Research
- teacher provides highly structured directions
- extensive modeling by the teacher
- research question & sources are predetermined & pre-selected by teacher
- students focus on selecting & organizing information for a particular text structure

Bounded Research
- teacher sets boundaries & provides directions to channel research
- modeling by teacher as needed
- student develops research question & selects sources within teacher-created boundaries
- organizational pattern selected from provided option(s)

Guided Research
- teacher shapes & scaffolds independent research
- modeling by teacher as needed
- student develops research question & selects sources
- organizational pattern selected from multiple options

Self-directed Research
- student initiates research, selecting discipline and topic
- teacher acts as guide and resource, answering questions and conferring at key stages of the process
- student develops research question, selects sources, and determines organizational pattern

Note: Although students should progress towards more research independence as they learn more and develop their research skills, they will not necessarily move from left to right along the continuum in a direct progression. The degree of scaffolding students need will depend upon the interaction of students’ skills and knowledge, the complexity of the resources they are using, and the conceptual and disciplinary complexity of the problem or question they are studying. As well, students in the same classroom may need to work at different levels of independence even if they have the same research question.

Adapted from the Research Skill Development Framework of University of Adelaide’s School of Education (http://www.adelaide.edu.au/rsd/framework)
<table>
<thead>
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<th>Student initiated research</th>
<th>Open research</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Embark and Clarify</strong></td>
<td>I was given a series of question sheets from my teacher and some set information to answer the questions.</td>
<td>I was given a series of question sheets from my teacher with choice about how I answered them.</td>
<td>I was able to choose from a range of questions and how I answered them.</td>
<td>I was asked to generate some of my own questions but had help from my teacher.</td>
</tr>
<tr>
<td><strong>Find and Generate</strong></td>
<td>I was given the information I needed from the teacher and I needed to use this information. OR I was told which practical to do and what data to collect.</td>
<td>I was given the information I needed from the teacher but the parts I needed were not clear. OR I was told how to complete a practical investigation but not told how to use the data.</td>
<td>I found my own information from a choice of resources the teacher had chosen. OR I had some choice about how I designed a specified practical.</td>
<td>I found my own information based on a set of guidelines. OR I designed my own experiment based on structured guidelines.</td>
</tr>
<tr>
<td><strong>Evaluate &amp; Reflect</strong></td>
<td>I have required support to fill in tables and set out my work.</td>
<td>I have made choices between 2 options when organising my work.</td>
<td>I have chosen my own method of organising my work.</td>
<td>I can refine my experiment to get more consistent results. I can explain to others why the improvements I have suggested would make a difference.</td>
</tr>
<tr>
<td><strong>Organise &amp; Manage</strong></td>
<td>I have found answers to questions set. I have asked questions to clarify information.</td>
<td>I have found answers to questions and put them in a standard format. I have asked questions I could go and find answers to.</td>
<td>I have found information or collected data and have made new questions to investigate to based on my findings.</td>
<td>I have found some gaps in what people know and have thought about some possible answers to these gaps.</td>
</tr>
<tr>
<td><strong>Analyse &amp; Synthesise</strong></td>
<td>I have used very simple language and applied my knowledge to similar situations in the past.</td>
<td>I have used some scientific language in my report. I have applied my knowledge to a new context.</td>
<td>I have used scientific language to show my understanding and used formulae where appropriate. I have shown where my knowledge fits in a range of areas.</td>
<td>I have used scientific language to show my understanding and have identified some gaps in knowledge. I have shown my knowledge in different ways.</td>
</tr>
</tbody>
</table>
RSD benefits the organisation and the profession

### Educational Partnerships
- Opens doors for collaboration
- Demystifies perceptions of professional roles
- Overcomes barriers to work in the curriculum
- Provides a common language, promotes dialogue
- Builds trust

### Transforming Practice
- Service to partnership model
- Enables contribution of library expertise
- Articulates shared educational objectives
- Strengthens the impact of the Library’s educational contribution within curricula

### Curriculum Innovation
- Reveals the skills curriculum, map & evidencing skills
- Informs broader educational strategies
- Maps to educational skill agendas
- A pedagogical tool informing curriculum and assessment design

### Building Staff Capacity
- Informs practice for skills development
- Taking risks to innovate
- Confidence building
- Leadership
- Transformational learning
- Shift in professional identity

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Benefits to students

- Gain awareness of themselves as learners and researchers
- Develops confidence for learning
- Develops research skills in context
- Research skills are made explicit rather than implicit
- Clearly articulated expectations
- Enables self-assessment against explicit criteria
- Enables better quality and more timely feedback
- Provides a consistent approach
Getting started: adopting the RSD from the ground up

- One assessment task
- Student skills audit/self-reflection
- Review learning objectives against the RSD
- Identify the skills students’ require to engage successfully with the task
- Make the skills explicit in the learning objectives
- Include the skills in the corresponding marking rubric

...start small!
Sustaining the Initiative

• Encourage formal & informal discussions
• Identify WIIFM factors!
• Be sensitive to personal agency, timing
• Bring a Friend (BAF) workshops
• Identify RSD “champions”
• Take a ‘risk’ – move to partnerships
• Develop RSD exemplars
• Develop evaluation tools and methods
• Encourage cross-faculty collaboration
• Promote with & engage your networks
• Collect evidence of effectiveness
• Research your practice
• ........and have fun!

Evaluating effectiveness

“The RSD has been particularly helpful for me as a framework for thinking about the research process and learning in the university. It helps me to unpack assessment tasks and marking criteria for students when they come to the Research and Learning Point. It also provides a context within which to create Library sessions. Understanding research skills as a dynamic interaction between the RSD ‘facets of inquiry’ and ‘student levels of autonomy’ has helped me to provide focused rather than 'just in case' sessions”.

Anne Melles, Subject Librarian, Faculty of Arts, Monash University Library.
Questions?

Thank you