Outcomes of explicit research skill development for undergraduates and masters by coursework students across 5 Australian universities.

This project is supported by an ALTC Competitive Grant.

One academic in our study ‘…suddenly realised that students did not know where the material in her lectures came from, that they seemed to think it was just there for her to tell them about; they did not recognise the years of research in the field, the teacher’s own research to enable her to present that knowledge, or that they themselves are engaged in a research process when they attempt to learn.’

1. Background

- Kerry O’Regan and John Willison developed the Research Skill Development (RSD) framework to guide academics’ conceptualisations.
- Eleanor Peirce and Mario Ricci demonstrated that the RSD, when applied to assessment matrices had a profound positive benefit for first year Human Biology students’ research skills.
- University of Adelaide provided a grant to pilot a protocol in six disciplines to address two research questions:
  - Q1: What are the advantages and disadvantages of explicit RSD?
  - Q2: What factors helped and hindered students research skill development?

2. Research Skill Development Study

- ALTC funded project addressed these 2 research questions, commenced June 2007, completed December, 2009.
- Study involved University of Melbourne, Monash University, Macquarie University, University of South Australia and led by University of Adelaide, involving 29 academics in 20 disciplines.
- Utilised RSD-informed assessment matrices, which influenced strongly the learning environment.
- Pre- and post-questionnaires given to find student perceptions of research skill gains.
- Students interviewed one year after a course.
- Interviews with academics involved.
- Analysis of student RSD marks.

3. Outcomes of the study

- Statistically significant improvements in students perceptions of their research skills from pre to post questionnaires. Academics agreed, and long-term RSD marks analysis confirmed. Literature research skills, laboratory research skills and field research skills facilitated by the RSD.
- Year-later interviews with students indicated that these skills were useful for subsequent study and especially for employment.
- Process was highly effective in developing research skills, but numerous improvements suggested, problems identified by students.
- Academics highly positive, with 95% intending to maintain/increase use of RSD.

4. Implications

- Use of RSD may enable research skill development for the majority of students, and elicit a more positive attitude to learning in undergraduate and masters courses.
- Disciplines known to be using the RSD include Animal Science, Business, Computing, Dentistry and Oral Health, Education, Electrical Engineering, English, History, Media, Medical Science, Nursing, Psychology and more joining.
- Extended framework, the RSD7, is currently being used at PhD level, suggesting potential coherent development from first year to PhD.
- Explicit research skill development in standard courses is a realisable way of enabling research and teaching to meet.

References