Framing assessment across degrees

go now to www.rsd.edu.au to comment or question in real time. See the blog for HERDSA on right.

Dr John Willison
University of Adelaide
john.willison@adelaide.edu.au
'I looked at the movement of customers, so people that were churning, people that were disconnecting, people that were switching on, and basically I sort of plotted them all across a timeline and the way they picked them was I looked at what happens prior to competitors activating their D-slams…I looked at it basically a couple of months before they had it and a couple of months after, and then you could sort of see how they did it….It was not like a lengthy word paper, but it was a bit of research and findings.' Monash Masters student 14 months after Business Ethics course
Facets of Research

When in doubt, go to the centre...

Based on www.rsd.edu.au and OPS designed by Mechanical Engineering Communications Tutors, University of Adelaide, 2014
john.willison@adelaide.edu.au
'I looked at the movement of customers, so people that were churning, people that were disconnecting, people that were switching on, and basically I sort of plotted them all across a timeline and the way they picked them was I looked at what happens prior to competitors activating their D-slams… I looked at it basically a couple of months before they had it and a couple of months after, and then you could sort of see how they did it….It was not like a lengthy word paper, but it was a bit of research and findings.' Monash Masters student 14 months after Business Ethics course
Reflecting on research in employment after undergraduate degree

**Embark & Clarify:** ‘I looked at the movement of customers’

**Find & Generate:** ‘people that were churning, people that were disconnecting, people that were switching on’

**Organise and Manage:** ‘and basically I sort of plotted them all across a timeline’
Reflecting on research in employment after undergraduate degree

**Analyse:** ‘I looked at what happens prior to competitors activating their D-slams...I looked at it basically a couple of months before they had it and a couple of months after’

**Synthesis:** ‘and then you could sort of see how they did it...’

**Communicate and Apply:**’ It was not like a lengthy word paper, but it was a bit of research and findings.’
Reflecting on research in employment after undergraduate degree

Which of the six facets did I not list then?

When was this facet of evaluate and reflect evident?

The student was researching autonomously after graduation, but missing evidence of aspects of rigour
Research Skill Development Framework

**Level of Student Autonomy**

**Level I**
- Students research at the level of a closed inquiry* and require a high degree of structure/guidance.

**Level II**
- Students research at the level of a closed inquiry* and require some structure/guidance.

**Level III**
- Students research independently at the level of a closed inquiry*.

**Level IV**
- Students research at the level of an open inquiry* within structured guidelines.

**Level V**
- Students research at the level of an open inquiry* within self-determined guidelines in accordance with the discipline.

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**FACET OF INQUIRY**

A. Students embark on inquiry and so determine a need for knowledge/understanding.

B. Students find/generate needed information/data using appropriate methodology.

C. Students critically evaluate information/data and the process to find/generate this information/data.

D. Students organise information collected/generated.

E. Students synthesise and analyse and apply new knowledge.

F. Students communicate knowledge and the processes used to generate it, with an awareness of ethical, social and cultural issues.
Multiple Exposures to the RSD framing in a variety of courses in a student’s degree

Variety, nuances

RSD

Coherent thread for students to generalise the learning experience as a whole
### Facets of Inquiry

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Level 1</th>
<th>Level 2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A. Embark on inquiry &amp; clarify the knowledge that is needed.</strong></td>
<td>Highly satisfactory</td>
<td>Satisfactory</td>
</tr>
<tr>
<td></td>
<td>If you were ticked here, this facet of research is a good starting point (7-10 marks)</td>
<td>If you were ticked here, this facet of research was OK but use this feedback to improve Assessment 2 (5-6 marks)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Unsatisfactory</td>
</tr>
<tr>
<td></td>
<td></td>
<td>If you were ticked here, this facet of research needs substantial work. (0-5 marks)</td>
</tr>
</tbody>
</table>

- Does the introduction of the analysis clearly explain the relevance of the issue to PH?
- Does the introduction of the analysis give some indication of relevance of the issue to PH?
- Was the statement about the relevance of the issue to PH unclear or not done?
Progressive revisiting the same skills:

- in varying contexts
- with increasing degrees of rigour, conceptual demand
Interviewing graduates who had multiple exposures to RSD

- Media: 10
- Oral Health: 9
- Engineering (Electrical and Electronic): 5
- Nursing: 1; Business: 2

We also interviewed 23 Honours students six months to one year after completing their required three year undergraduate degree in:

- Medical Science: 14
- Animal Science: 9
Outcomes of RSD for Graduates

• Research skills developed across degree programs are perceived by a substantial majority of graduates (25/27) to be useful in their employment context.

• A substantial majority of Honours students (20/23) stated that the use of the RSD framework earlier in the degree was helpful for the development of their research skills.

• Use of the RSD framework in multiple courses of degree programs was recommended by the majority (43/50) of graduates and Honours students interviewed.
Using Research Skills in Oral Health

“Before I left for Cambodia, I actually took a silver fluoride which is a product that we didn’t even actually come into contact with in the Bachelor of Oral Health… so I was doing a lot of research with that…

I ended up purchasing some and taking it over with me and I was using it a lot when I was over there.”

(2010 B. Oral Health graduate interviewed in Nov. 2011)
An Honours student’s comment on common framing across a degree program

Since the beginning [of First Year], they have given us assignments based on this criteria. You might not have liked the assignments, but because they have been consistently applying this structure to all of our assignments, we have come to think that way for science, in the perspective of science and writing … You might not know that you’re following their guidelines, but you are. (Medical Science Honours Student 4)
Reinforcing across a degree program

It [the RSD rubric] tells you a lot, because I remember one of the criteria was to be specific … in my [First Year] Human Biology course… so I think it’s very relevant to Honours, because when we were doing our first seminar, some of the topics were really broad. Automatically you think: I have to be specific otherwise it’s too broad…

(Medical Science Honours Student 7)
RSD… a frozen conversation

I was assessed to be in the 2B range, and I was of course not happy about that, which is *why I spoke to my coordinator, and he explained it*, because we didn’t know if you are following your recipe, like, the supervisor’s recipe, or is this your idea. *We wouldn’t know*, so we naturally assumed this is what your supervisor gave you and you simply follow instructions. So that to me all okay, *I need to make it very clear* in my writing, and from now on in my theses, that this is my idea. (Medical Science Honours Student 14)
Using Research Skills in Media

The rubric was basically a guide that I followed to finish the assignment. It was really good in the sense because I could go step by step, and not just kind of flick from one bit to another bit.

...that [RSD-based ]rubric from Media Research Methods and also from Global Media kind of set the fundamentals of what to do when you’re actually in the workplace as well.

B Media Graduate 1
I think I'm good at **solving complex problems** and coming up with new ideas to solve complex problems. That's my main strength… I think I'm good at doing something and then **critically analysing** it, finding out what's bad about it or what we can do, or what ours and the differences and things like that.

EEE Graduate 3
Why Research Skill Development?

Without appropriate structure and guidance, by third year students tend to perform open-inquiry projects in each of their biology courses at ‘the same level of sophistication as in their introductory core course’.

Without a common framing …
Looking back at my undergrad, I sort of didn’t really have much to do with this framework in the large scheme of things. It was more sort of focus on whatever assignments you had at the time and **not really looking at the big picture**. Animal Science Honours Student 6

‘… given the growth of ever more detailed marking schemes for assessments, does feedback become something which is **too specific to a single episode** of assessment rather than **generalisable** to the learning experience as a whole’

More RSD?

- Email & web addresses on the RSD placemat
- john.willison@adelaide.eu.au
- Visit www.rsd.edu.au for lots of discipline examples
RSD in your context?

- What questions do you have for clarification, curiosity or critique?
- Feel free to comment or question at www.rsd.edu.au. See the blog for HERDSA on right.
Support for the work reported here was provided by the Office of Learning and Teaching. Lots of stuff at www.rsd.edu.au
### University of South Pacific’s RSD Implementation (Heena Lal, USP)

<table>
<thead>
<tr>
<th>Year 2013</th>
<th>Year 2014</th>
<th>Year 2015</th>
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<tbody>
<tr>
<td>Embed RSD in UU courses (UU100, UU114, UU200, UU204)</td>
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<tr>
<td>Introduce RSD in 100-level discipline based courses</td>
<td>Continue to embed RSD in selected 100-level courses</td>
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<tr>
<td>Introduce RSD in 200-level discipline based courses</td>
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<td>Continue to embed RSD in selected 200-level courses</td>
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<tr>
<td>Introduce RSD in core postgraduate courses</td>
<td>Continue to introduce and embed RSD in core postgraduate courses</td>
<td>Continue to embed RSD in core postgraduate courses</td>
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<tr>
<td>Implement and embed RSD in core 300-level courses</td>
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Extent of Autonomy

<table>
<thead>
<tr>
<th>Educator Initiated</th>
<th>Student Initiated</th>
<th>Discipline Leading</th>
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### Monash Pharmacy Degree: Post Hoc Mapping

#### Identifies and interprets key words in a task
- Formulates a hypothesis
- Formulates questions
- Sets the scope of a task
- Devises a time management strategy
- Creates a supportive environment for team members

#### Students can find or generate needed information or data using appropriate methodologies

<table>
<thead>
<tr>
<th>Lectures</th>
<th>Tutorials and/or W/Shops</th>
<th>Computer Pracs</th>
<th>Lab Pracs</th>
<th>Assignment</th>
<th>Exam</th>
<th>Source of content</th>
<th>Student autonomy</th>
<th>Task description</th>
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</thead>
<tbody>
<tr>
<td>Taught</td>
<td>Practised</td>
<td>Practised</td>
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#### Students evaluate information or data and the processes to find or generate it

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</table>
First year units – teaching facets of enquiry

- Embark on inquiry: 30%
- Find or generate information: 8%
- Evaluate information: 16%
- Organise information, manage the process: 10%
- Synthesise analyse and apply: 32%
- Communicate knowledge and processes: 4%
You have get a Tax Refund on your Visa or MasterCard. Complete the formular, and get your Tax Refund.

(Your Refund Amount Is $210.75 AUD)
Evaluating Sources

Should I click on ‘Complete Formular’ to get my tax return?

Each table has 2 minutes to list as many indicators of source credibility, positive and negative, as possible. Group with the highest number of indicators reads them out.
You have get a Tax Refund on your Visa or MasterCard. Complete the formular, and get your Tax Refund.

(Your Refund Amount Is $210.75 AUD)

Complete Formular
What are some skills that you employed in this task?
Levels of Autonomy

<table>
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<th>Educator Initiated</th>
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<tbody>
<tr>
<td><strong>P</strong></td>
<td>Open</td>
</tr>
<tr>
<td><strong>B</strong></td>
<td>Self-activated</td>
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<tr>
<td><strong>S</strong></td>
<td>Self-actuated</td>
</tr>
<tr>
<td><strong>S</strong></td>
<td>Self-actuated</td>
</tr>
<tr>
<td><strong>P</strong></td>
<td>Open</td>
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*Levels of Autonomy diagram showing the transition from Educator Initiated to Student Initiated.*
# Research Skill Development Framework

## Level of Student Autonomy

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<th>Description</th>
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</tr>
<tr>
<td>Level V</td>
<td>Students research at the level of an open inquiry* within self-determined guidelines in accordance with the syllabus</td>
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**A.** Students embark on inquiry and so determine a need for knowledge/understanding.

**B.** Students find/generate needed information/data using appropriate methodology.

**C.** Students critically evaluate information/data and the process to find/generate this information/data.

**D.** Students organise information collected/generated.

**E.** Students synthesise and analyse and apply new knowledge.

**F.** Students communicate knowledge and the processes used to generate it, with an awareness of ethical, social and cultural issues.
Masters Students who experienced one RSD course (Business Ethics, Monash)

“I know that research is important, not only from an educational perspective, but if I’m in a work situation it’s just basically understanding what I want to achieve in my role with my customer...

…and how I actually go about breaking that down into manageable easy steps. So, yes, it’s got a practical application in my world in what I do. -Monash Business Ethics Student Summer 07-08 Cohort, interviewed in April 2009.
Using Research Skills in Engineering

…to search through the work databases and … I'm doing some information on some assets that we have here and trying to find information that's been dated back from 20 or 30 years ago; I'm definitely using those skills that I learnt at uni to find that. Electrical Engineer Graduate 4
Research Skills for Subsequent Studies?

• I'm currently using it for inspecting basically what other people are doing within my current field and things that people are doing outside my current field that could potentially relate to my actual field at the moment. Then obviously documentation skills and also planning skills.

• Facilitator: What do you mean by planning skills?

• Interviewee: Being able to meet deadlines, being able to basically break up a task into small enough parts that you can effectively deal with them as one lot, rather than having it as one big problem that you'll never solve.

• Electrical Engineering Graduate 5. doing Masters by Research
Facets of research

- Organize & manage
- Analyse & synthesis
- Communicate & apply
- Evaluate & reflect
- Embark & clarify
- Find & generate
Interviewed one year after completing 3 year degree with multiple courses using RSD

- 27 Graduates/ 23 Honours students
- Benefits of current RSD use
  - Yes
  - No
- Disadvantages of current RSD use
  - Yes
  - No
- Should RSD be used throughout the undergraduate degree programs?
  - Yes
  - No