

# STAR Working Group 5 Final Report

### Implementation of the Research Skills Development (RSD) Framework at USP

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University of the South Pacific

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I am neither especially clever nor especially gifted. I am only very, very curious. --Albert Einstein

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L- R: Dr. Jito Vanualailai, Dr. Yoko Kanemasu, Professor Marnie Hughes-Warrington [Pro VC (Learning & Teaching) of Monash University], Ms. Raijieli Bulatale and Dr. Gurmeet Singh.

#### **Executive Summary**

This document reports on the findings of STAR WG5's study of the Research Skills Development (RSD) framework developed by the Centre for Learning and Professional Development (CLPD) at the University of Adelaide.

Members of WG5 (Jito Vanualailai, Gurmeet Singh, Yoko Kanemasu and Raijieli Bulatale) visited the University of Adelaide and Monash University on a fact finding mission over the period 29 August - 2 September, 2011. They met the following academics and administrators who are implementing the RSD framework.

#### University of Adelaide (UA)

John Willison	CLPD, Project Leader
Eleanor Peirce and Mario Ricci	Medical Science
Said Al-Sarawi, Brian Ng and Mike Liebelt	Electrical and Electronic Engineering
Frank Donnelly	Nursing
Richard Warner	CLPD, Student Learning Support
Ursula McGowan	CLPD, Academic Development
Cathy Snelling and Sophie Karanicolas	Oral Health
Li Jiang	Software Engineering in Industry
Mike Wilmore	Associate Dean of Teaching and Learning
	(Humanities and Social Science) and Media Studies
Ashley Turner and Jenny Newsome	Center of Aboriginal Studies of Music

Ashley Turner and Jenny Newsome

#### Monash University (MU)

Marnie Hughes-Warrington Sue Mayson Leanne McCann Lyn Torres

Pro VC (Teaching & Learning) Human Resource Management Library- Student Learning Support Library- Information Research Officer

The team also visited Henley High School, which is exploring the use of the RSD framework with teachers of Years 8-10.

The specific aims of the visit were:

- 1. To understand the Research Skills Development (RSD) framework;
- 2. To consult the developers and users of the RSD framework to find out about the advantages and challenges regarding the adaptation and implementation for developing and enhancing research skills literacy amongst tertiary students;
- 3. To recommend to USP a system that develops research skills and literacy in all our students by 2013,

The methods used in this descriptive study to gather data were:

- 1. interviewing the developers and users of the RSD framework;
- 2. collecting documentary evidence on assessment rubrics, tasks, criteria, reports and others;
- viewing samples of student research projects; and 3.
- attending lectures, workshops and training on various aspects of the RSD framework. 4.

WG5 found that in general the RSD framework was a workable tool that could guide an academic in developing and assessing students' research skills in content-rich courses from First Year undergraduate to PhD level in diverse fields of specialisation. Moreover, it found that the bottom-up approach adopted by UA and the dual approach by MU (top-down and bottom-up) provided an implementation model that USP could adopt.

WG5 thus concluded that the RSD framework was a suitable model for USP and recommended a 3-year phased adaptation and implementation that would culminate in a university-wide usage by 2015.

We take this opportunity to acknowledge our Australian colleagues for their willingness to meet us and help us in understanding the RSD framework. We were overwhelmed by the kindness and warmth of those we met. Vinaka vakalevu!

## What is the Research Skills Development (RSD) Framework and who is it for?

In order to engage in meaningful research, students would benefit from the explicit development of their research skills, as would the staff guiding that development. At the University of Adelaide, a model, called the RSD framework, has been developed to help staff and students develop explicitly the research experiences of students through a process of curriculum design.

It is a conceptual tool for diagnosis and planning, promoting understanding and interpretation of both potential and realised student research skill development.<sup>1</sup>

The framework is for "lecturers who want to conceptualise how they will facilitate this development. It is also for educational leaders concerned about student ratings and research funding issues and for researchers wanting to study research skill development and the links between teaching and research."<sup>2</sup>

#### Background

#### Who developed the RSD framework?

Dr. John Willison and Dr. Kerry O'Regan, Centre for Learning and Professional Development, University of Adelaide, South Australia, in their paper:

Willison, J. and O'Regan, K. (2007). 'Commonly known, commonly not known, totally unknown: a framework for students becoming researchers'. *Higher Education Research and Development, 26*(4), December 2007, pp. 393-409.

### What were some of the reasons behind the development of the RSD framework?

The idea of 'students as researchers' has become embedded and highly valued in higher education practice.<sup>3</sup>

Students are now perceived as researchers who 'observe and participate in the process of both discovery and communication of knowledge' <sup>4</sup>



Dr. Willison and Dr. Kanemasu in deep discussions on the RSD framework

<sup>&</sup>lt;sup>1</sup> Willison, J., and O'Regan, K. (2006). The Research Skill Development Framework. Accessed from http://www.adelaide.edu.au/clpd/rsd/framework

<sup>&</sup>lt;sup>2</sup> Willison, J. and O'Regan, K. (2007). 'Commonly known, commonly not known, totally unknown: a framework for students becoming researchers'. Higher Education Research and Development, 26(4), December 2007, pp. 393-409.

<sup>&</sup>lt;sup>3</sup> Burkill, S. (2009). 'Involving students in researching learning and teaching approaches: An additional focus for undergraduate student publications?' The Plymouth Student Scientist 2(2), 1-3.

<sup>&</sup>lt;sup>4</sup> The Boyer Commission on Educating Undergraduates in a Research University, 1998, p.18

### What is the Structure of the RSD Framework?

It is a rubric, which consists of 3 components:

- 1. Facet of Inquiry;
- 2. Level of Student Autonomy;
- 3. Assessment Criteria.

#### **Facet of Inquiry**

Drawing together elements from two models – the ANZIL  $(2004)^5$  and Bloom's Taxonomy<sup>6</sup> - the 6 facets of enquiry were drawn up, namely that:

- 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 them;
- D. Students organise information collected/generated;
- E. Students synthesise and analyse new knowledge; and
- F. Students communicate knowledge and understanding and the processes used to generate them.

#### Level of Student Autonomy

A level represents the degree of autonomy in research that a student can achieve or has achieved. There are five levels:

- I. Students research at the level of a closed inquiry <sup>7</sup> and require a high degree of structure/guidance;
- II. Students research at the level of a closed inquiry and require some structure/guidance
- III. Students research independently at the level of a closed inquiry;
- IV. Students research at the level of an **open inquiry\*** within **structured guidelines;** and
- V. Students research at the level of an **open inquiry** within **self-determined guidelines** in accordance with the discipline.

#### **Assessment Criteria**

For each facet and level, an assessment criterion, or descriptor, is provided.

	Y=a level of autonomy
X=a facet of enquiry	Descriptor relating X and Y

For example, for Facet A, the descriptor for Level I is **Responds to questions/tasks arising from a closed** *inquiry*, whereas, the corresponding descriptor for Level V of the same facet is **Generates and responds to** *self-determined questions/tasks based on experience, expertise and literature*. These descriptors demonstrate that movement from Level I to Level V is towards greater autonomy and self-determination.

<sup>&</sup>lt;sup>5</sup> ANZIL (2004) Australian and New Zealand information literacy framework: principles, standards and practice,

 <sup>(2</sup>nd ed.) Retrieved 3 April 2006 from, http://www.caul.edu.au/info-literacy/InfoLiteracyFramework.pdf.
 <sup>6</sup> Bloom, B., Engelhardt, M.D., Furst, E.J., Hill, W.H., & Krathwohl, D.R. (1956). Taxonomy of Educational Objectives, NewYork: David McKay Company.

<sup>&</sup>lt;sup>7</sup> Inquiry may range from closed (lecturer specified) to open (student specified) in terms of (i) question, hypothesis or aim of task (ii) procedure or equipment, and (iii) answer, resolution or further inquiry.

R	esearch	Skill
Develo	oment F	ramework

		← LEVEL OF STUDENT	
		Level I	Level II
		Students research at the level of a closed inquiry* and require a high degree of structure/guidance	Students research at the level of a closed inquiry* and require some structure/guidance
	A. Students embark on inquiry and so determines a need for knowledge/ understanding	Respond to questions/tasks arising explicitly from a closed inquiry.	Respond to questions/tasks required by and implicit in a closed inquiry.
	B. Students find/generate needed information/ data using appropriate methodology	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 prescribed source/s in which the information/data is not clearly evident.
DF INQUIRY	C. Students critically evaluate information/data and the process to find/generate this information/data	Evaluate information/data and the inquiry process using simple prescribed criteria.	Evaluate information/data and the inquiry process using prescribed criteria.
FACET 0	D. Students organise information collected/ generated	Organise information/data using a simple prescribed structure and process.	Organise information/data using a recommended structure and process.
	E. Students synthesise and analyse new knowledge	Synthesise and analyse information/data to reproduce existing knowledge in prescribed formats. Ask questions of clarification/ curiosity.	Synthesise and analyse information/data to reorganise existing knowledge in standard formats. Ask relevant, researchable questions.
	F. Students communicate knowledge and understanding and the processes used to generate them	Use mainly lay language and prescribed genre to demonstrate required knowledge and understanding for lecturer/teacher as the audience.	Use some discipline-specific language and prescribed genre to demonstrate self-selected knowledge and understanding from a stated perspective and for a specified audience.

\* Inquiry may range from closed (lecturer specified) to open (student specified) in terms of: i) question, hypothesis or aim of research; ii) procedure or equipment; iii) answer, resolution or further inquiry (Hackling and Fairbrother 1996).

The Research Skill Development framework was devised by John Willison and Kerry O'Regan. ©The University of Adelaide, October 2006

www.adelaide.edu.au/clpd/materia/projects/rsd/

LEVEL OF STUDENT AUTONOMY		
Level III	Level IV	Level V
Students research independently at the level of a closed inquiry*	Students research at the level of an open inquiry* within structured guidelines	Students research at the level of an open inquiry* within self- determined guidelines
Respond to questions/tasks generated from a closed inquiry.	Generate questions/aims/ hypotheses framed within structured guidelines.	Generate questions/aims/ hypotheses based on experience, expertise and literature.
Collect and record required information/data from self- selected sources using one of several prescribed methodologies.	Collect and record self- determined information/data from self-selected sources, choosing an appropriate methodology based on structured guidelines.	Collect and record self- determined information/data from self-selected sources, choosing or devising an appropriate methodology with self-structured guidelines.
Evaluate information/data and the inquiry process using criteria related to the aims of the inquiry.	Evaluate information/data and the inquiry process comprehensively using self- determined criteria developed within structured guidelines.	Evaluate information/data and the inquiry process rigorously using self-generated criteria based on experience, expertise and the literature.
Organise information/data using recommended structures and self-determined processes.	Organise information/data using structures and processes suggested by provided guidelines.	Organise information/data using self-determined structures and processes.
Synthesise and analyse information/data to construct emergent knowledge. Ask rigorous, researchable questions based on new understandings.	Synthesise and analyse information/data to fill recognised knowledge gaps.	Synthesise and analyse information/data to fill self- identified gaps or extend knowledge.
Use mostly discipline-specific language and appropriate genre to demonstrate knowledge and understanding within a field from a scholarly perspective and for a specified audience.	Use the language of the discipline and appropriate genre to address knowledge and understanding gaps from several perspectives for a self- selected audience.	Use the language of the discipline, choosing appropriate genre to extend knowledge and understanding, from diverse perspectives for a range of audiences.

#### How could the RSD framework be used?

At least ten different approaches to using the Research Skill Development framework have been identified.<sup>8</sup>

- 1. Assessment rubric scaffolding: This approach is used widely.
- 2. *Level-by-level scaffolding*: in this approach the course coordinator determines in advance the scope of research appropriate for each assessment task, and grades within that level.
- 3. *Curriculum re-shaping*: in this approach, all available assessments, laboratory tasks, field components, etc, are shaped by the RSD.
- 4. *Resource module structuring*: this approach was developed at Queensland University of Technology to organise existing, interactive online modules for developing facets of library research skills along a continuum of four levels.
- 5. *PhD bridging program*: this approach, developed at the University of Adelaide, uses the newly developed RSD7 to structure a marking rubric for draft research proposals written by PhD candidates who are new to the University. In this approach, students self-assess their work and supervisors assess the proposal using the rubric, which then forms the basis for a discussion of differences and expectations
- 6. *Analysis of existing assessment or curricula*: this approach was used to to analyse programs from undergraduate to PhD in a School of Nursing and Midwifery at Trinity College Dublin.
- 7. *Point of departure*: in this approach, the RSD framework serves as a basis for developing structured methods for marking analytic works, but its structure is modified to meet the demands of individual disciplines.
- 8. *Inspiration for frameworks for related purpose*: for instance, the Work Skill Development (WSD) framework developed and being evaluated at James Cook University.
- 9. Development of student-negotiated marking criteria: in this approach, students in a School of Education were given specific marking criteria for three Facets of the RSD, but were required to write and negotiate criteria for the other three Facets, which were then used to assess their research assessment.
- 10. *Policy guidance*: Monash University is utilizing the RSD as a 'backbone' of its curriculum renewal process.

<sup>&</sup>lt;sup>8</sup> Willison, J., and O'Regan, K. (2006). Handbook for Research Skill Development and Assessment in the Curriculum. Accessed from <u>http://www.adelaide.edu.au/clpd/rsd/framework</u>, page 12.

## What are some of the advantages and disadvantages of implementing the RSD framework?

#### Advantages

#### Disadvantages

#### The RSD framework:

- has received positive feedback via student surveys, staff interviews, published reports and peer-reviewed journal articles, conference presentations, accreditation bodies and large amounts of anecdotal evidence;
- embraces all of the seven USP institutional outcomes (see next section);
- demystifies 'research' in that it is not confined to conventional academic usages;<sup>9</sup>
- helps to make existing research knowledge, skills and literacy more explicit for both students and lecturers;
- makes assessment expectations more explicit for both students and lecturers;
- assists students and lecturers to understand how to attain better grades;
- makes marking assessments much easier through the use of precise descriptors;
- a conceptual tool for the development of marking rubrics;
- can be adapted to the discipline-specific needs of various courses and programmes;
- facilitates across a degree the scaffolded progression in the process of research and achievement of research products;
- can be used to redesign courses and curriculum e.g. lecturers can create tasks to correspond to the six facets of the framework;
- reduces preparation and marking time in subsequent offerings of the course;
- as a learning tool, enhances students' ability to work independently (as they progress along the levels of autonomy);
- as a professional development tool, enhances a lecturer's ability to work independently and with others (autonomy and collegiality); and
- is accompanied by an easy-to-read handbook which guides the user on how to apply the framework, and contains many real-life examples.

#### The RSD framework:

- still needs conclusive substantiation of its efficacy/utility<sup>10</sup>;
- will be time-consuming in its initial adaptation and implementation stage;
- is an additional rubric to existing USP institutional outcome rubrics;
- may generate resistance from academics especially if implemented in a top-down manner without comprehensive consultation; may not be effectively utilised if academics only pay lip service to its adaptation and implementation; and if imposed as policy, may not get buyin/ownership from both academics and students;
- could become confusing for students if its adaptation and implementation is not consistent university-wide; and
- could be expensive to implement as a University-wide curriculum overhaul.



Discussions with Dr. Mike Wilmore, Associate Dean of Teaching and Learning (Humanities and Social Science) and Media Studies

<sup>&</sup>lt;sup>9</sup> For instance, the RSD framework is currently being implemented at the Centre for Aboriginal Studies of Music, University of Adelaide, to assess students' research into the background of their artwork and/or musical composition.

<sup>&</sup>lt;sup>10</sup> The developers of the RSD framework have just been awarded further funding from the Australian Learning and Teaching Council to undertake related work titled "Outcomes and uptake of explicit research skill development across degree programs: 'Its got a practical application in my world.'" Details at http://www.adelaide.edu.au/clpd/rsd/

## Is there any relationship between the RSD framework and the USP Institutional Outcomes?

The seven USP institutional outcomes, with their sets of criteria, are:

#### 1) Pacific Citizenship

- a) Commitment to human rights;
- b) Relationship between one's culture and position in the world;
- c) Sustaining Pacific Societies.

#### 2) Innovation and Creativity

- a) Research skills (connecting, synthesizing and transforming);
- b) Problem-solving skills;
- c) Integrate traditional and modern practices to sustain Pacific societies.

#### 3) Professionalism

- a) Adaptability;
- b) Illustrates inter-personal skills;
- c) Manages time.

#### 4) Teamwork

- a) Accepts responsibility and contributes to team;
- b) Fosters inclusive group dynamics;
- c) Manages disagreements and respects diverse backgrounds.

#### 5) Communication: Writing

- a) Content;
- b) Language (grammar) and clarity;
- c) Organization, style and structure;
- d) Referencing, documenting and audience awareness.

#### **Communication: Speaking**

- e) Content;
- f) Organization;
- g) Delivery.

#### 6) Critical Thinking

- a) Identify the issue/problem to be considered;
- b) Gather relevant information to investigate alternative perspectives;
- c) Appraise assumptions, implications and practical consequences of alternative perspectives;
- d) Formulate student's own position (perspective, hypothesis);
- e) Communicate students' own conclusions and/or implement solutions.

#### 7) Ethics

- a) Adhere to academic conventions;
- b) Apply and justify their ethical perspective;
- c) Advocates development of an ethical organizational climate in all USP settings.

Based on the facets of enquiry and the levels of student autonomy, it is clear that the RSD framework **embraces all of the seven USP institutional outcomes**, as depicted in the figure below.



Teamwork in action



Communication session with Dr Li Jeang, Head, Software Engineering in Industry



This means that the RSD framework may enable a consolidation of STAR initiatives, while connecting with the need for USP to become more research intensive.

Moreover, it will help USP in its endeavor to become a "great university," given that the characteristics of a world-class university include the following:

- Has an international reputation for research;
- Has a number of research stars and world leaders in their fields;
- Identifies and builds on its research strengths and has a distinctive reputation and focus;
- Generates innovative ideas and produces basic and applied research in abundance;
- Produces groundbreaking research output recognized by peers and prizes; and
- Produces a high-quality and supportive research and educational environment for both its staff and students.



Ms. Bulatale hard at work developing the relationships between the USP institutional outcomes and the RSD framework.

## What aspects of the RSD framework can be implemented at USP and how?

As described earlier, there are 10 different approaches to using the RSD framework. The three recommended approaches for USP are:<sup>11</sup>

- 1. Developing a diagnostic assessment;
- 2. Developing RSD marking rubrics for assignment and/or project assessment; and
- 3. Curriculum re-shaping.

#### **Developing a diagnostic assessment**

Diagnostic assessments using RSD are usually, but not necessarily, literature research tasks in which students compare and analyse two short pieces of writing on a key topic. The topic should be one that is clearly defined and can be effectively explored in this format and in a limited time frame, as a diagnostic assessment should ideally be completed during a single class period.

The first element in developing a workable diagnostic assessment for research skills is to decide what research skills it needs to cover and what level of autonomy it should encompass. Identify a pair of short texts that contain different perspectives on a relevant topic, devise a task that requires students to identify key ideas and/or locate points of difference and similarity between the articles (you may ask them to present these in note form, to develop a research skill), and to compare and contrast or offer an analysis of the sources. Students should be asked to support their judgements of source validity with evidence (another research skill).

One can then use the RSD shell rubric to articulate the set of assessment criteria, modifying the assessment task and rubric as necessary during the process to ensure that all of the six RSD facets are included and that the task allows students to work to one's chosen levels.

#### Developing RSD marking rubrics for assignment and/or project assessment

This constitutes the following:

- 1. <u>Assessment of assignment/project</u>. The process itself of producing the assignment/project or final output by the students can be incrementally assessed by the RSD framework.
- 2. <u>Assessment and marking scheme for assignment/project reports</u>. The marking and assessment rubric can be explicitly developed via the RSD.
- 3. Assessment and marking of presentations (of the final output).

In developing an RSD marking rubric for an existing, individual assessment, there are several stages:

- *map* the existing assessment task against the RSD framework to locate it at a **level of student autonomy**;
- *consider* whether the task should remain at that level of inquiry, or to focus on a higher or lower level;

<sup>&</sup>lt;sup>11</sup> Willison, J., and O'Regan, K. (2006). The Research Skill Development Framework. Accessed from <u>http://www.adelaide.edu.au/clpd/rsd/framework</u>, pages 10 and 11.

- *analyse* the task using the six RSD **facets**, to identify which facets are present in the existing assessment, which are absent, which need to be strengthened and which need to receive less emphasis;
- *modify* the assessment task to incorporate all facets, and to include all the required levels; and
- using the assessment task as a guide, *develop* a marking rubric based on the RSD shell rubric, to articulate the assessment's requirements accurately to students, and enable quick, effective marking.

#### **Curriculum re-shaping**

The RSD is frequently used as a conceptual tool for 'assessment-first' curriculum design.

The process of redesigning curriculum using RSD involves, first, developing marking rubrics, or designing new ones, that are informed by the RSD structure for existing assignments. Doing this first allows changes to the course structure to flow from the changes to the marking rubrics.

One prominent change that occurs as a result of redesigning marking rubrics in this way is that lecturers represent the purpose of assessment tasks to students differently: they give more emphasis to the development of students' research skills in their discipline, which can have positive effects on student engagement. Some lecturers have reported that relatively small changes to assessments have led to substantial differences in the way they talk in class about a journal article or laboratory task, and that this can ultimately alter the whole purpose and feel of a course.

#### <u>STEP 1</u>

The first step in this method of using the RSD is to reframe the marking of an existing assessment usually one that falls late in the semester, and ideally the final assessment task in the course—so that it too uses the RSD format of assessing the 6 research facets, each marked up to Level 3 or Level 4 of the framework.

#### <u>STEP 2</u>

The second step is to develop a diagnostic assessment. This is typically a task requiring students to synthesise information from two or more literature sources, and is marked up to Level 2 of an RSD rubric, but diagnostics can also be designed to assess laboratory, fieldwork or performance research skills, and skills specific to many other disciplines.

#### <u>STEP 3</u>

The third step, using these two modified tasks as bookends, is to modify and revise the emphasis of other existing resources and assessment tasks so that they form a coherent sequence.

### What are the timelines and required resources?

#### **RSD Framework Implementation Work Plan for Research-Rich Content Courses**

A three-year rollout plan is proposed, with 2015 as being the year when the framework will be fully implemented across the university.

Year	Activities	Budget (Total=\$50,000)
Phase 1: 2012 (Semester I)	1 week training for LLF11, LLF12, <sup>12</sup> and 100-level coordinators <sup>13</sup> , and a Research Office Project Officer by Adelaide University Team	<ul> <li>1 week (5-working days) training by Dr. Willison and one his colleagues.</li> <li>Return Airfare: 2x3000=\$6,000</li> <li>Per diem: 2x2000=\$4,000</li> <li>Fee: (\$600 per day x 5)x2 = \$6,000</li> <li>Others (refreshments, photocopies, etc)=\$4,000</li> <li>Sub total: \$20,000</li> </ul>
Phase 2: 2012 (Semester II)	<ul> <li>1 week training for 200-level course coordinators by a 100-level coordinator and RO Project Officer</li> <li>Preparation of LLF11, LLF12 and the selected 100-level courses for 2013</li> </ul>	<ul> <li>Fee: (\$600 per day x 5)x2 = \$6,000</li> <li>Others (refreshments, photocopies, etc)=\$4,000</li> <li>Sub-total = \$10,000</li> </ul>
Phase 3: 2013 (Semester I)	<ul> <li>LLF11, and selected Semester I 100-level courses implement RSD;</li> <li>Preparation of selected 200-level courses for 2014;</li> <li>1 week training of 300-level course coordinators by a 200-level coordinator and RO Project Officer</li> </ul>	<ul> <li>Fee: (\$600 per day x 5)x2 = \$6,000</li> <li>Others (refreshments, photocopies, etc)=\$4,000</li> <li>Sub-total = \$10,000</li> </ul>
Phase 4: 2013 (Semester II)	<ul> <li>LLF12, and selected Semester II 100-level courses implement RSD;</li> <li>Preparation of selected 300-level courses for 2014;</li> <li>1 week training of 400-level course coordinators, and postgraduate supervisors by a 300-level coordinator and RO Project Officer</li> </ul>	<ul> <li>Fee: (\$600 per day x 5)x2 = \$6,000</li> <li>Others (refreshments, photocopies, etc)=\$4,000</li> <li>Sub-total = \$10,000</li> </ul>
Phase 5: 2014 (Semester I)	<ul> <li>Selected Semester II 200-level and 300-level courses implement RSD</li> <li>Preparation of selected</li> </ul>	

<sup>&</sup>lt;sup>12</sup> LLF11 and LLF12 are pre-requisites of all UG programs at USP. Hence an early application of the RSD will help students understand the framework in later years. Also, the development of English literacy is based on the same facets and attributes of the RSD. For instance, a student intending to be language literate must be curious, determined, discerning, systematic, creative and constructive. These are related to the cognitive facets of research process.

<sup>&</sup>lt;sup>13</sup> The courses are to be identified by the faculties.

	postgraduate courses and programs for 2015
Phase 5: 2014 (Semester II)	<ul> <li>Evaluation of LLF11 and LLF12, and selected 100-level courses;</li> <li>Continue with implementation and preparation activities</li> </ul>
Phase 6: 2015 ~ onwards	<ul> <li>Postgraduate courses and programs implement RSD</li> <li>Implementation of RSD university- wide;</li> <li>M &amp; E continue</li> </ul>

It is also recommended that a Project Officer be hired to oversee the implementation of the framework. The salary (over 3 years) would be approximately \$150,000 at \$50K per annum.

#### Hence, a total budget of \$200,000 is envisaged.

#### Recommendations

- 1. USP adopts the RSD framework with at least 3 different approaches to using the RSD framework:
  - a. Developing a diagnostic assessment;
  - b. Developing RSD marking rubrics for assignment and/or project assessment;
  - c. Curriculum re-shaping.
- 2. USP adopts the 3-year implementation plan and set aside \$200,000 for the implementation.



WG5 with Dr. Willison's colleagues at the Centre for Learning and Professional Development (CLPD), University of Adelaide, 29 August, 2011, saying *Bula*!