International Conference on the Models of Engaged Learning & Teaching

www.i-melt.edu.au

Wi-Fi login: nwc  Password: natwine00

I-MELT is supported by the Australian Government, Department of Education and Training
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Introduction

I-MELT will be a meeting place of minds sharing a common conceptualisation that engages students and educators in many diverse ways, contexts and cultural settings. The conference will use the Models of Engaged Learning and Teaching (MELT) as the conceptual frameworks for our shared conversations, and so all presentations will use, adapt, connect together or critique one or more of the following:

- The Research Skill Development (RSD and RSD7) Framework
- The Optimising Problem Solving (OPS) framework
- The Clinical Reflection Skills (CRS) framework
- The Work Skill Development (WSD) framework
- The Critical Thinking Skills (CTS) framework
- Research Mountain (for children)
- Your own MELT, adapted to fit your contexts.

Presentations and posters will use one or more of the MELT frameworks to address any of the conference themes:

- Critical thinking
- Research skills
- Institution/system level
- Academic literacy and writing
- Partnerships
- Applications
- Culturally aware
- Schooling
- Work skills
- Problem solving
- E-Learning
- Authentic learning.
# I-MELT Program

**Molten Monday 11 December 2017**

<table>
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<th>Time</th>
<th>Session</th>
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<tbody>
<tr>
<td>9.00-10.00 am</td>
<td>Registration and coffee</td>
</tr>
<tr>
<td>10.00 am</td>
<td><strong>Acknowledgement of Country: Hickinbotham</strong></td>
</tr>
<tr>
<td>10.00 am</td>
<td><strong>Welcome to I-MELT: Professor Phil Levy</strong>, Pro Vice-Chancellor - Student Learning, University of Adelaide.</td>
</tr>
<tr>
<td>10.30</td>
<td><strong>Professor Emeritus Mick Healey Keynote:</strong> <em>Engaged Learning and Teaching through Student Partnership: Hickinbotham</em> UK Higher Education Consultant <a href="mailto:mhealey@glos.ac.uk">mhealey@glos.ac.uk</a></td>
</tr>
<tr>
<td>12.00-12.30</td>
<td><em><em>From ‘Research Mountain’</em> for early childhood to PhD studies and supervision:</em>* <em>The reach and potential of MELT. Hickinbotham.</em> John Willison (*flipped song).</td>
</tr>
<tr>
<td>12.30-1.30</td>
<td><strong>Lunch: Hickinbotham</strong></td>
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<tr>
<td>1.30-1.55</td>
<td><strong>Critical Thinking: Ferguson</strong> Chair Ursula McGowan</td>
</tr>
<tr>
<td></td>
<td>1. <em>Achieving Constructive Alignment Using the Critical Thinking Skills Pentagon and Reflective Practice</em> Aurore Chow &amp; Jack Bowers <a href="mailto:aurore.chow@anu.edu.au">aurore.chow@anu.edu.au</a></td>
</tr>
<tr>
<td></td>
<td><strong>Research Skills: The Gallery</strong> Chair Karey Harrison</td>
</tr>
<tr>
<td></td>
<td>4. <em>Rising to the Surface: Re-designing Curriculum to Accentuate Research Skills</em> Manisha Thakkar <a href="mailto:Manisha.Thakkar@endeavour.edu.au">Manisha.Thakkar@endeavour.edu.au</a></td>
</tr>
<tr>
<td>2.00-2.25</td>
<td>2. <em>Using the Critical Thinking Pentagon to Assess Facets of Learning Within Management Studies at RMIT</em> Susan Mate, Keith Toh &amp; Phil Smith <a href="mailto:susan.mate@rmit.edu.au">susan.mate@rmit.edu.au</a></td>
</tr>
<tr>
<td></td>
<td>5. <em>Rediscovering the Added Value of Research in Undergraduate Formation: A Case-Based Reflection</em> Ana Yévenes <a href="mailto:ayevenes@uft.cl">ayevenes@uft.cl</a></td>
</tr>
<tr>
<td>2.30-2.55</td>
<td>3. <em>Scaffolding Clinical Reasoning and Decision Making</em> Katie Piper <a href="mailto:katie.piper@monash.edu">katie.piper@monash.edu</a></td>
</tr>
<tr>
<td></td>
<td>6. <em>Research Skill Development in the MBA Capstone Project: Tools for Facilitating Student Engagement</em> Colin Sharp <a href="mailto:colin.sharp@unisa.edu.au">colin.sharp@unisa.edu.au</a></td>
</tr>
<tr>
<td>2.30-2.55</td>
<td><strong>Into the sMELTer 1:</strong> The Vines <strong>Using the Work Skill Development Framework to Build Rigour into WIL Programs</strong> Diane Mayorga, Suzanne Schibeci &amp; Ray Tolhurst <a href="mailto:d.mayorga@unsw.edu.au">d.mayorga@unsw.edu.au</a></td>
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<tr>
<td>Time</td>
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<tr>
<td>3.00-3.30</td>
<td>Afternoon Tea: Hickinbotham</td>
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</table>
| 3.30-3.55 | MELT in Your Mouth  
Session 2  
3.30-3.55  
Institution/System Level Ferguson  
Chair: Penny Vervoorst  
7. A MELTING Moment in UK Higher Education?  
Mike Wilmore  
mwilmore@bournemouth.ac.uk  
Academic Literacy and Writing  
The Gallery  
Chair: Katie Piper  
10. Learning-Teaching Autonomy in Accelerating Academic Literacy Development  
Ursula McGowan  
ursula.mcgowan@adelaide.edu.au  
Into the sMELTer 2: The Vines  
Envisioning the Future of Research-based Curriculum Design Using Lego Serious Play  
Chad Habel  
chad.habel@unisa.edu.au  |
| 4.00-4.25 | 8. Research Skills Development at The University of the South Pacific  
Shaiza Janif  
janif_s@usp.ac.fj  
11. Method to their Madness: Analysing Students’ Writings Against the RSD Framework  
Imtiaz Bughio, Fizza Sabir & Faraz Bughio  
imtiaz.bughio@adelaide.edu.au  |
| 4.30-4.55 | 9. Integrating the Research Skill Development (RSD) Framework into Master’s Curriculum at the Royal University of Phnom Penh  
Serey Sok & Vanny Sok  
sokserey@gmail.com  
12. Towards a More Cogent Curriculum for Experimental Writing: A Case Study  
Tim Wong & Esmael Yahya  
tim.wwt@monash.edu  |
| 5.00 – 7.00 | Welcome reception: Courtyard  |
|            | Own dinner arrangements  |
| 8.00-9.00am| Registration and coffee  |
| 9.00-10.00| Professor Jito Vanualailai: The University of the South Pacific and the RSD: Hickinbotham.  
Director of the Research Office, The University of the South Pacific  
jito.valualailai@usp.ac.fj  |
| 10.00-10.25| MELT your Mind 2  
Session 3  
10.00-10.25  
Partnerships: Ferguson  
Chair: Diane Mayorga  
13. Research-based Education Meets MELT: Co-created Classrooms for the 21st Century  
Beth Loveys, Cathy Snelling & Sophie Karanikolas  
beth.loveys@adelaide.edu.au  
Applications: The Gallery  
Chair: Shaiza Janif  
15. Using the Research Skill Development Framework to Construct Marking Rubrics for Law Assessments  
Thaatchaayini Kananatu  
thaatchaayini.kananatu@monash.edu  
Culturally Aware: The Vines  
Chair: Suzanne Schibeci  
17. The Work Skill Development Framework Applied to Students in Mexico  
E. Patricia Orozco Quijano, Sue Bandaranaike  
porozco@laurentian.ca  |
| 10.30-10.55| 14. Stages of Concern: A Facilitator’s Reaction to Implementing the RSD in a Community of Practice  
Sylvia Tiala  
tialas@uwstout.edu  
Lyn Torres, Georgina Willetts, Loretta Garvey, Tomas Zahora, Steven Yates & Anne Young  
lynette.torres@monash.edu  
18. I-Talitali Framework: Developing a Model for Engaged Learning and Teaching in the Pacific  
Narsamma Lingam, Lalita Sharma, Jiokepeci Qaloqilevu, Waisale Ramoce, Sangita Lal & Rosarine Rafai  
lingam_n@usp.ac.fj  |
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<tr>
<td>11.00-11.30</td>
<td>Morning Tea: Hickinbothan</td>
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| MELT in Your Mouth Session 4 | Research Skills: Ferguson  
Chair: Manisha Thakkar  
19. *The Effectiveness of 'Bolted on' Research Training*  
Emma Gyuris
emma.gyuris@jcu.edu.au  
Schooling: The Gallery  
Chair: Jeanne Young  
22. *Investigating Refugee Secondary Student Perspectives on Models of Engaged Learning & Teaching*  
Judith Thomas & Fizza Sabir
judith.thomas@adelaide.edu.au | Into the sMELTer 3: The Vines  
*Finding Employability Skills in the Curriculum: Are they there?*  
Lyn Torres, Barbara Yazbeck, Sebastian Borutta (Monash University), Sue Bandaranaike (James Cook University). lynette.torres@monash.edu |
| 12.00-12.25  | 20. *Conceptual Catch-22 in RSD for Novice Learners*  
Karey Harrison
karey.harrison@usq.edu.au  
23. *Multidisciplinary Approach to MELT use from Grade 5 to Year 12*  
Jason Home  
Jason.Home553@schools.sa.edu.au |
| 12.30-12.55  | 21. *Using the RSD Framework to Address Equity Gaps in Undergraduate Research*  
Jenny Shanahan
jshanahan@bridgew.edu  
24. *Reframing the Research and Work Skill Development Framework Facets to Support Becoming a Teacher*  
Deborah Heck
dheck@usc.edu.au |
| 1.00-2.00    | Lunch: Hickinbothan                                                  |
| MELT in Your Mouth Session 5 | Work Skills: Ferguson  
Chair: Cathy Snelling  
Sue Bandaranaike
suniti.bandaranaike@jcu.edu.au  
Problem Solving: The Gallery  
Chair: Kristen den Exter  
28. *Optimising Problem Solving: Students Adapting the RSD so that it Would Speak to Students*  
Siddharth Shah & Dorothy Missingham.
siddharth.shah@student.adelaide.edu.au | Into the sMELTer 4: The Vines  
*Transforming Teaching Practices: A Model to Conquer Evidence Based Decision Making Skills*  
Manisha Thakkar, Jeanne Young Kirby, Jason Home, David Wilson & Roopa Howard  
Manisha.Thakkar@endeavour.edu.au |
| 2.00-2.25    | 26. *Adapting the Work Skill Development Framework for the Professional Skills and Values Required for Aspiring Professional Accountants*  
Diane Mayorga
d.mayorga@unsw.edu.au  
29. *Keep Calm and Carry a Pentagon*  
Penny Vervoort
penny.vervoort@holmesglen.edu.au |
Ernest Baafi, Ray Tolhurst & Kevin Marston
rayt@uow.edu.au  
30. *Integrating Problem-Based Learning and Research Skill Development: An Example from a Master’s Teacher Leader Course*  
Tara Shepperson
tara.ellepeter@eku.edu |
| 3.00-3.25    | 3.30-4.00 Arvo tea: Hickinbothan  
4.00-5.00 MELTING Moments  
**MELting Moments - Poster presentations:** Hickinbothan |
| 3.00-3.25    | 28. *Optimising Problem Solving: Students Adapting the RSD so that it Would Speak to Students*  
Siddharth Shah & Dorothy Missingham.
siddharth.shah@student.adelaide.edu.au |
| 3.00-3.25    | 30. *Integrating Problem-Based Learning and Research Skill Development: An Example from a Master’s Teacher Leader Course*  
Tara Shepperson
tara.ellepeter@eku.edu |
| 3.30-4.00    | Arvo tea: Hickinbothan                                                |
| 4.00-5.00    | MELTING Moments - **Poster presentations:** Hickinbothan              |
| 5.00-6.30    | Drinks available for purchase at the bar.                             |
6.30 - 9.30  
**Dinner**

**Conference dinner:**  
Courtyard (ticketed)

**International dance-off:**  
Courtyard
Cambodian, English, Greek, Indian, Indonesian & Persian dance leaders get you dancing in this international dance-off! With DJ Joe

**Wednesday 13 December 2017**

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<td>Registration and coffee</td>
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<tr>
<td>10.00-10.55 am</td>
<td><strong>Associate Professor Sylvia Tiala Keynote:</strong> MELTing Zombies, Toasting Bats: Using the RSD to Communicate Across Contexts: Hickinbotham</td>
<td></td>
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</table>
| MELT your Mind 3 | College of Education, University of Wisconsin Stout  
tialas@uwstout.edu                                                                                      |
| 11.00-11.25 | **MELT in Your Mouth**  
**Session 6**  
**Problem Solving: Ferguson**  
Chair: Siddharth Shah  
31. Teachers’ and Tutors’ Perceptions of the Optimising Problem Solving (OPS) Framework for Solving Mathematical Problems  
Shinta Sari  
shinta.sari@student.adelaide.edu.au  
32. Using the Optimising Problem Solving Pentagon as a Basis for Research Skills in Final Year Engineering  
Purush Karu, Hien Tran Minh & Belinda Sta Maria  
purusothaman@monash.edu  
33. Evaluating Student Engagement and Learning Outcomes Through E-Learning in Biomedical Sciences  
Rebecca Donkin & Elizabeth Askew  
rdonkin@usc.edu.au  
34. Research Skill Development (RSD)-Integrated Online Report for Critical Thinking Skills  
Raissa Matanari  
raissa.matanari@student.adelaide.edu.au  
35. Let’s Make It Real! Approaching Engaged Learning from Authentic Contexts Across Disciplines  
Kristen den Exter, Jonathan Purdy, Adele Wessel, Liz Reimer, Pascal Scherer & Michael Whelan  
krustin.denexter@scu.edu.au  
36. Developing a Practice-Based Approach to MELT for Higher Education in Business Management  
Kasun Chandrasekara  
kasun.chandrasekara@aib.edu.au  |
| 11.30-11.55 |  
32. Using the Optimising Problem Solving Pentagon as a Basis for Research Skills in Final Year Engineering  
Purush Karu, Hien Tran Minh & Belinda Sta Maria  
purusothaman@monash.edu  
33. Evaluating Student Engagement and Learning Outcomes Through E-Learning in Biomedical Sciences  
Rebecca Donkin & Elizabeth Askew  
rdonkin@usc.edu.au  
34. Research Skill Development (RSD)-Integrated Online Report for Critical Thinking Skills  
Raissa Matanari  
raissa.matanari@student.adelaide.edu.au  
35. Let’s Make It Real! Approaching Engaged Learning from Authentic Contexts Across Disciplines  
Kristen den Exter, Jonathan Purdy, Adele Wessel, Liz Reimer, Pascal Scherer & Michael Whelan  
krustin.denexter@scu.edu.au  
36. Developing a Practice-Based Approach to MELT for Higher Education in Business Management  
Kasun Chandrasekara  
kasun.chandrasekara@aib.edu.au  |
| 12.00-1.00 | **Lunch:** Hickinbotham                                                                            |                                                                                |
| 1.00-2.00  | **MELTing pot**  
**Student and keynote panel:** Frameworks and Freedoms: Educator guidance, student ownership and Learning tensions: Hickinbotham.  
Siddharth Shah (Mechanical Engineering Student/tutor), Ha Thi Ngoc Tran (PhD candidate, School of Education), Sylvia Tiala, Jito Vanualailai & Mick Healey.  |
| 2.00-2.45 pm | **The MELTdown**  
**Professor Phil Levy, University of Adelaide Keynote,** helps us look back and then look forward:  
Hickinbotham  
philippa.levy@adelaide.edu.au  |
| 2.45-3.00 pm | **Wrap up and thankyou:** Hickinbotham                                                            |                                                                                |
| 3.00 pm on  | **Chill and Crystallise**  
Post conference relaxation at the wine centre. Picnic blankets and nibbles provided.            |                                                                                |
Keynote Speakers

Emeritus Professor Mick Healey

Mick Healey is a HE Consultant and Researcher and managing director of Healey HE Consultants. He holds an Emeritus Professorship at the University of Gloucestershire, UK. Until 2010 he was Professor of Geography and Director of the Centre for Active Learning, a nationally funded Centre for Excellence in Teaching and Learning at Gloucestershire. He is also a Visiting Professor at University College London, UK and The Humboldt Distinguished Scholar in Research-Based Learning at McMaster University, Canada.

Mick has particular interests in linking teaching and research, engaging students in research and inquiry, students as partners, scholarship of teaching and learning, and bringing about change in curricula. He was co-editor of the International Journal for Academic Development (2010-13) and the International section of the US-based Council on Undergraduate Research Quarterly (2009-16). He is a founding co-editor of the International Journal for Students as Partners, which will publish its first issue in 2017. Mick is a frequent visitor to Australia and has presented at two-thirds of Australian universities.

See Mick's keynote abstract

Associate Professor Sylvia Tiala

Sylvia is in Teaching, Learning and Leadership, College of Education, Hospitality, Health and Human Sciences at the University of Wisconsin Stout, USA. Sylvia has taught high school technology education in both urban and rural school districts for 20 years. In that context, she developed a process-based curriculum framework utilised in cross-curricular, inquiry-based, courses such as “Engineering and Problem Solving” and “Aerospace”. She has taught for 10 years in Higher Education and currently teaches subjects related to education disciplines with a focus on preparing pre-service STEM education teachers.

Sylvia leads the Research Skill Development Framework Community of Practice (CoP) at UW-Stout in collaboration with the Nakatni Teaching and Learning Center including a blog, developing RSD CoP manual, organising workshops, promoting the RSD framework across campus, researching “Stages of Concern” as part of CoP implementation. She is actively exploring ways to overlay the Clinical Reflective Skills framework in pre-service and in-service teacher preparation; utilising the RSD framework to overlay on process-based curriculum framework for STEM education and digital fabrication applications suitable for use in K-16+ settings.

See Sylvia's keynote abstract
Professor Jito Vanualailai

Professor Jito Vanualailai obtained his PhD in Applied Mathematics from Kobe University, Japan, in 1994, after which he joined the School of Computing, Information & Mathematical Sciences of the University of the South Pacific, Fiji, where he is now an associate professor. Dr. Vanualailai is also the University's Director of Research, supporting the Deputy Vice-Chancellor (Research, Innovation & International) in developing and directing initiatives that promote excellence in research aligned to the University’s strategic research objectives.

One of the current initiatives is the implementation of the Research Skills Development (RSD) framework across the University's academic programmes. Initiated in 2012, the RSD implementation involves the training of course coordinators, the revision of course assessments to integrate research literacy and skills, and the development of the RSD marking rubrics in courses. From 2017, the focus will be away from courses and towards programmes in order to ensure a more cohesive implementation of the RSD.

See Jito's keynote abstract

Professor Phil Levy

Philippa joined the University of Adelaide as Pro Vice-Chancellor Student Learning in April 2015. Also in 2015, she was appointed Visiting Professor at the Centre for Higher Education Management at the University of Bath, UK.

Phil previously was Deputy Chief Executive, and Director of Academic Practice, of the UK’s body for the enhancement of learning and teaching in higher education, the Higher Education Academy (HEA). At the HEA she led national enhancement strategy and services, including commissioned educational research, across all academic disciplines and in a range of thematic areas such as employability, internationalisation, student retention and success, flexible learning, online learning and ‘students as partners’. She also led the HEA’s work on a range of national strategic projects in areas including grade point average, teaching excellence, learning gain and college-based higher education.

Phil will be welcoming us to I-MELT and, during the MELTdown, helping us to look back at the conference and consider where to from here.
Directions

Adelaide City Map Legend

- The University of Adelaide
- Stamford Plaza Hotel
- Radisson Playford Hotel
- Saville Park Suites
- Grosvenor Vista Hotel
- Stamford Grand Hotel
- Lincoln College

National Wine Centre

To Glenelg 10km

Airport 5km
Keynote Abstract List

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<th>Keynote No.</th>
<th>Author</th>
<th>Title</th>
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<tr>
<td>1.</td>
<td>Mick Healey</td>
<td>Engaged Learning and Teaching through Student Partnership</td>
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<tr>
<td></td>
<td>Centre for Active Learning, University of Gloucestershire, UK</td>
<td></td>
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<tr>
<td>2.</td>
<td>Jito Vanualailai</td>
<td>The University of the South Pacific and the RSD</td>
</tr>
<tr>
<td></td>
<td>School of Computing, Information &amp; Mathematical Sciences, University of the South Pacific, Fiji</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>Sylvia Tiala</td>
<td>MELTing Zombies, Toasting Bats: Using the RSD to Communicate Across Contexts</td>
</tr>
<tr>
<td></td>
<td>College of Education, Hospitality, Health and Human Sciences, University of Wisconsin Stout, USA</td>
<td></td>
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Full Keynote Abstracts

1. Engaged Learning and Teaching through Student Partnership
Mick Healey
Centre for Active Learning, University of Gloucestershire, UK

Ways of engaging students in higher education as partners in learning and teaching is arguably one of the most important issues facing higher education in the 21st Century. The family of Models of Engaged Learning and Teaching (MELT) provides one example of this. This interactive keynote will situate the MELT approach in the broader context of other models of engaged learning, which also adopt a ‘students as partners’ approach. We will explore four ways in which students may be engaged in partnership through: a) Learning, teaching and assessment; b) Subject-based research and inquiry; c) Scholarship of teaching and learning; and d) Curriculum design and pedagogic advice and consultancy. We will focus particularly on the second and third ways, which most closely relate to the MELT model. The argument will be illustrated by numerous mini case studies of practices from a wide range of disciplines in Australasia, Europe, and North America. The session will end with a discussion of the implications of a ‘students as partners’ approach to the development of the MELT model.

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2. The University of the South Pacific and the RSD
Jito Vanualailai
School of Computing, Information & Mathematical Sciences, University of the South Pacific, Fiji

The University of the South Pacific (USP) is a premier provider of tertiary education in the Pacific region and jointly owned by the governments of 12 Pacific Island Countries. In 2011, in response to a review during its 40th Anniversary, USP decided to implement the Research Skill Development (RSD) framework into all its academic programs. As a curriculum initiative, an unusual feature of the implementation is that the RSD is administered by the Office of the Deputy Vice-Chancellor for Research, in a top-down approach. In this talk, I explore the rationale behind the adoption of the RSD, discuss the process of implementation, and address the advantages and disadvantages of the approach. As the University prepares for its 50th anniversary in 2018, the member nations are looking to the University to provide the region with graduates who have the skills to make a difference socially, economically, educationally and environmentally.

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3. MELTing Zombies, Toasting Bats: Using the RSD to Communicate Across Contexts
Sylvia Tiala
College of Education, Hospitality, Health and Human Sciences, University of Wisconsin Stout, USA

Context, collaboration and a sense of community combined with the RSD/sister frameworks have the power to create cultural shifts in educational institutions. A template for facilitating shifts in thinking is created when these elements are combined with strategies that make thinking visible and stories that resonate with learners. Context, collaboration, community, stories and visible thinking have helped integrate research practices and engaged learning/teaching across contexts in classrooms, universities, at state and nation wide levels. MELTing Zombies, Toasting Bats, and geocaching the RSD, are a few examples that illustrate the successful integration of these elements.

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# Poster Abstract List

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<td>1.</td>
<td>Harry Jol</td>
<td>Adoption of the Research Skills Development Framework and Pentagon in Weekly Undergraduate Research Mentoring Sessions: A Case Study from the Geosciences</td>
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<tr>
<td>2.</td>
<td>Sandyha Maranna, Marsole Greyvensteyn &amp; Nayana Parange</td>
<td>E-Assessment Evaluation of Preclinical Skills in an Online Postgraduate Sonography Course</td>
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<td>3.</td>
<td>Amy Han, Mervyn Lim, Melissa Santos, Laura Honing, Marcus Chester &amp; Steven Yates</td>
<td>eLearning Activities Browser - A New Tool for Educational Design</td>
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<td>4.</td>
<td>Amir Gholami &amp; George Brown</td>
<td>’MELTing’ Away the Stigma of a Dry Finance Subject: The Case of Implementing the Australian Share Market (ASX) Simulation as a Tool to Improve Student Engagement at a Private Higher Education Provider</td>
</tr>
<tr>
<td>5.</td>
<td>Nguyễn Bùi</td>
<td>MELT in the Materials Evaluation and Development Process</td>
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<td>6.</td>
<td>Nayana Parange, Brooke Osborne, Sandy Maranna, Jessie Childs, Kate Lamb &amp; Kerry Thoirs</td>
<td>Teaching Evidence-Based Practice Online Using a Programmatic Approach in a Postgraduate Program</td>
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<td>7.</td>
<td>Pam Megaw &amp; Monika Zimanyi</td>
<td>The Use of Very Simple Poster Production to Engage Students</td>
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### Full Poster Abstracts

1. **Adoption of the Research Skills Development Framework and Pentagon in Weekly Undergraduate Research Mentoring Sessions: A Case Study from the Geosciences**

   **Harry Jol**
   Department of Geography and Anthropology, University of Wisconsin-Eau Claire

   There are numerous efforts to improve undergraduate STEM education that focus on increasing the active engagement of students (National Academies of Sciences, Engineering, and Medicine, 2017). This project focuses on the adoption of the Research Skills Development (RSD) Framework and associated pentagon in student-faculty research collaborations at the University of Wisconsin-Eau Claire. Ten undergraduate students (including underrepresented minorities), who completed an intensive field data collection program at various locations worldwide, were provided with an overview of the RSD. During weekly individual research mentoring sessions, students came prepared to discuss their research progress using their completed RSD Pentagon as a guide. The intentionality of introducing the students to the RSD process also aided in “demystifying the system of research” as well as challenging students to take controlled risks.

   After students reflected on their research experience and presented their research results at a regional or national professional conference, they noted that they had moved at a minimum of “one block” in the RSD grid, were able to recognize an
improvement in time management, could use appropriate terminology for updating
their resumes/cover letters, were able to apply these newly acquired skills in other
settings, and had become more actively engaged as they progressed through the
“research process”.

2. E-Assessment Evaluation of Preclinical Skills in an Online
Postgraduate Sonography Course
Sandyha Maranna, Marsole Greyvensteyn & Nayana Parange
Medical Sonography, University of South Australia

A completely online postgraduate sonography course underwent curriculum
redevelopment in 2015. Based on accreditation guidelines, gaps were identified in
the summative assessments used previously. The fundamental challenges involved
aligning learning outcomes with AQF level-8 criteria and introducing research
awareness.

The detailed version of the Research Skill Development framework (RSD) was
modified to suit discipline-specific needs. The RSD level used here was bounded
researching (level 2) to suit first year students. A clinical case scenario was
developed to help students embark on inquiry into an assigned topic, generate
needed information, critically evaluate the information, organise, apply and
communicate the new knowledge. A detailed marking rubric based on the RSD was
then developed for lecturers to provide online feedback to students.

The RSD has been effectively implemented to develop research awareness,
application of theory in practice and application of evidence-based thinking in
sonography students. Over the past four semesters, there has been a sustained
increase in the proportion of students stating that assignment items assisted in their
learning and that “appropriate constructive feedback was provided”. Scores on these
items by students in the online sonography course are now above division and
university average values.

This poster will provide a snapshot of the case scenario assignment, the modified
rubric and outcomes achieved by the student co-author.
3. eLearning Activities Browser - A New Tool for Educational Design
Amy Han, Mervyn Lim, Melissa Santoso, Laura Honing, Marcus Chester & Steven Yates
Monash University Library, Monash University
The eLearning Activities Browser (eLAB) is an educational design tool developed by Monash University Library to help staff design blended learning activities. Users can browse the collection of example activities from different starting points, such as Bloom’s taxonomy dimensions, action verbs, and technologies, which can be downloaded, modified and incorporated into other projects. Next, the Research Skill Development (RSD) and Work Skill Development (WSD) frameworks will be mapped as new entry points contributing to staff use of the RSD and WSD and potentially enhancing understanding and uptake of the two frameworks and their application in learning and teaching contexts.

The eLAB is built on a Drupal server with content created using platforms and tools such as Adobe Captivate, Adobe Presenter, Moodle, Google suites, social media, videos and more. Detailed site structures enabled by taxonomies and schema have been mapped and constructed in order to allow for the flexible display of objects in different views allowing for additional frameworks to be incorporated.

Focus groups, surveys and usability testing are underway to gather feedback for improvement. Projects integrating the use of eLAB into assessment design are also in progress. This poster describes the purpose and visually depicts the use of eLAB.

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4. ‘MELTing’ Away the Stigma of a Dry Finance Subject: The Case of Implementing the Australian Share Market (ASX) Simulation as a Tool to Improve Student Engagement at a Private Higher Education Provider
Amir Gholami & George Brown
Finance and Accounting, International College of Hotel Management
The overarching aim of all teaching and learning activities is to actively engage students in a dynamic environment which nurtures and supports a variety of learning activities. In the educational environment, engagement is highly important because it acts as a behavioural pathway in which students contribute to their learning and improvement, including their skills and the final marking results (Finn and Rock, 1997, Skinner and Belmont, 1993). Despite lecturers’ intentions for improving learning environments, the teaching of finance presents some challenges, even before the teacher walks into the room. Finance lecturers may find students scared of big numbers once they start engaging in calculations. Those students who are at the other end of the spectrum often question the relevance of some topics, such as the company’s performance evaluation based on financial statements and share price in the market, and relevance of these to real-world activities.
As new lecturers in finance at a private higher education provider, we were faced with the following challenges:

- How could we make our finance topics more interesting and, above all, engaging for students?
- How could we encourage students to link the relevance of each topic, and in particular, link the outcomes of each topic to real-world examples?
- How could we cater to different learning styles and, in particular, to those students at opposite ends of the financial numeracy spectrum?

Research suggests that game theory, also known as Competition-based Learning (CnBL), when used with other traditional andragogical techniques, can improve the learning performance of students and can provide a strong motivator for learning (Burguillo, 2010, Hwang et al., 2012b, Hwang et al., 2012a, Chen and Hwang, 2017, Lin et al., 2017, Sanchez, 2017, Chen et al., 2017, Sailer et al., 2017). To this end, the authors piloted the implementation of the Australian Share Market (ASX) “Trading simulation game” into a third-year finance topic at a private higher education provider.

Preliminary qualitative results suggest that students are engaging more deeply with the presented topics. The authors aim to quantify these initial findings with a survey, which may support results in the literature.

5. MELT in the Materials Evaluation and Development Process
Nguyễn Bùi
Department of English Studies, Hanoi University, Vietnam

Over the course of around ten years working as an English teacher, one of the ideas I have internalised is that materials evaluation and development are essential in a teaching career.

According to Tomlinson (1998), anything can be used for teaching and learning. This pragmatic concept of materials may give teachers a sense of freedom in their collection of materials for lessons. However, the question of which materials to adopt for a lesson can be a perplexing one for teachers. In the hope of providing teachers with better materials evaluation and development for their lessons, I would like to apply the six facets of MELT in the process of evaluating and developing teaching materials for a specific lesson. Due to the purposes of my application, I will shift facets 3, 5 and 6 to 6, 3 and 5 respectively.

6. Teaching Evidence-Based Practice Online Using a Programmatic Approach in a Postgraduate Program
The postgraduate medical sonography programs delivered by the University of South Australia are delivered flexibly, externally and online.

Australian Qualifications Framework (AQF) requirements and Australian Sonographer Accreditation Registry (ASAR) accreditation standards now emphasise the need to build research capacity in medical sonography graduates. There is an industry need to develop evidence-based decision-making and evidence-based practice (EBP) for diagnosis. Students have to learn the basic principles of EBP and critical appraisal of work practice protocols in context with national and international guidelines and protocols to be able to deliver best practice, patient-centred care.

We adopted the detailed and simpler (pentagonal) versions of the Research Skills Development (RSD) Framework as a pedagogical framework to address this challenge. An effective, research-embedded curriculum utilising the six facets of enquiry described in the RSD framework now provides students with an explicit scaffold to develop their skills in EBP and clinical reasoning skills. Students learn research principles and methodology including research question/s, literature review and critique, sampling procedures and selection, qualitative and quantitative research methods and EBP across the program.

The poster illustrates this programmatic approach to innovation in curriculum renewal with specific focus on developing EBP skills and knowledge in an online program.

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7. The Use of Very Simple Poster Production to Engage Students
Pam Megaw & Monika Zimanyi
College of Public Health, Medical and Veterinary Science, James Cook University
College of Medicine and Dentistry, James Cook University

We co-teach first year anatomy and physiology to 320 allied health students studying four different programs. Just over half of the cohort are first-in-family students, with diverse academic backgrounds, and ATAR scores ranging from 35 - 99.95. Historically, the subject has been characterised by a high level of student under-performance, attrition and disengagement.

We introduced activity-intensive workshops where one of the components had student groups engage with case study materials by producing a simple poster explaining the content. Each group was provided with a sheet of butchers paper and marking pens, encouraged to use resources at hand, and given up to 30 minutes to complete the activity. The students then discussed their posters with instructors and the class. Photos of the posters were made available on the Learning Management
System for all students to use as learning tools. Here we show how students applied the principles of the MELT RSD in completing their posters.

Students readily engaged with this activity and often competed for ‘best poster’ recognition. It was clear that the students enjoyed the session. This is a very simple activity, and requires few resources. It is an effective way to engage the students to become active in their learning, with 84% of students agreeing that the case studies were helpful when surveyed at the end of the semester.

Wendy Li, Sam Rogers & Olena Kravchuk
Biometry Hub, School of Agriculture, Food and Wine, University of Adelaide

Decision-making in Agriculture is intrinsically evidence-based. The evidence presented to stakeholders must adequately reflect reality to avoid misleading or biased decisions. The quality of data collected in experimental trials is of paramount importance. Worldwide, in developed and developing nations, the agricultural research and development and extension sector is rapidly moving towards widely accepting digital elements in data acquisition from the pre-breeding research to the logistics in market chains. To best utilise advances in the agricultural and information technologies, a new and efficient platform for work skills development is required in relation to designing trials and data acquisition. Similar to many other industries experiencing the pressure of the digital shift, the agricultural workforce is looking for ways of continuous education alternative to secondary, post-secondary and higher education. The current demand is high for professional development training presented by practicing statisticians and data scientists to research workers and agronomists. For this type of training, we are investigating a suitable model of engaged learning and teaching amongst new education frameworks for work skills developments in the 21st century.

9. Using the Colours of the Research Skills Development Framework as Cues for Feedback in a Postgraduate Coursework Subject
Suzanne Schibeci
Faculty of Science; Faculty of Arts and Social Science, University of New South Wales
The Master of Environmental Management is a coursework program offered by the School of Humanities and Languages at UNSW Sydney. As a multidisciplinary degree, it attracts students from a range of backgrounds. Field Ecology, a knowledge base subject in the program, covers theoretical and practical ecology and its application in environmental management. The Research Skills Development (RSD) Framework was employed for the first time in this subject in Semester 2 of 2017, because of its focus on the ‘development’ of the student’s capabilities from dependence to autonomy. Setting clear expectations and stepwise feedback is important in nurturing learner engagement (Biggs & Tang, 2011). While it was felt that this MELT would provide clear structure to assist with these aims, it was uncertain whether postgraduate students (both international and local), sitting between research and its professional application, would find this framework useful in identifying areas in their practice needing attention. A short survey at the end of the course was used to determine students’ opinions on the framework’s effectiveness.

Tasks were assigned to develop the students’ skills through the course: from a research task in the student’s particular area of interest, to a field-based study, where the application of theoretical ecology was demonstrated. The RSD framework colours were used in feedback to enable the course participants to understand their achieved level of competency at a glance. Supplementary written and/or verbal feedback specified areas needing attention and of noteworthy achievement.

10. Implementing a MELT-based Paraxial and Simultaneous Music Learning Model for Piano Teaching
Maggie Chan
Department of Education, University of Adelaide

The traditional one-to-one master-apprentice teaching model, which dominates music instrumental education in music conservatories and private studios, is still a common mode of instruction to this date. In recent years, new teaching models such as the paraxial and simultaneous models have been advocated that steer away from this old model where the value of music education is not regarded as purely aesthetic. A broader aim of humanistic education is emphasised, where music making is both a product and process. In this study, a MELT-adapted Paraxial and Simultaneous piano learning model is presented with a 21st-century learning theme. The study involves two phases with action research in the first phase on one-on-one piano students to observe how best to test pilot the model. Phase two will involve more empirical data collection with case studies on small-group instrumental learning classes using the new model, and to study how student motivation and students’ music conceptual understandings are influenced.
11. MELTing Diverse Faculty Backgrounds to Form a Culture of Inquiry
Jacqueline DiSanto, Nelson Nunez-Rodriguez & Antonios Varelas
Early Childhood Education; Natural Science Department; Behavioral Science, Hostos Community College, City University of New York

Four faculty members, with diverse research experience and varied content specialties, formed an initiative based on the scholarship of teaching and learning in 2016. Their purpose was threefold: 1) to foster a culture of scholarship among faculty across rank, tenure, and academic background; 2) to communicate the value of scholarly endeavours rooted in daily classroom life for reappointment, tenure, and promotion; and 3) to create a venue through which faculty could develop pedagogy, teaching identity, and scholarship. Four seminars were held during the past academic year; the first two were designed to assist participants as they posed research questions and defined their aim for embarking on this project. The emphasis was on having faculty conduct pedagogical research within their classroom on the effect their strategies had on their students' complex-learning skills and academic progress. Through reflection and shared narrative, attendees posed questions, defined the problem, and stated their aim. Participants outlined their strategy and data protocol, and generated the requisite application to conduct research during the last two events. Faculty, in pursuit of more effective teaching, will conduct these purposeful assessments in their classroom this year, share their findings with peers through presentations and publications, and repeat the cycle.

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Full Workshop Abstracts

1. **Using the Work Skill Development Framework to Build Rigour into WIL Programs**
   Diane Mayorga, Suzanne Schibeci & Ray Tolhurst
   School of Accounting, Business School, University of New South Wales Faculty of Science, University of New South Wales
   School of Civil, Mining & Environmental Engineering, University of Wollongong
This workshop aims to help participants apply the WSD Framework to WIL programs. The growing importance of "soft" (or "generic") skills is acknowledged. The workshop is based on developing techniques that identify the work skills that students require for employment and then how to develop learning and assessment activities to enable students to build a portfolio of evidence to demonstrate that they have key employability skills valued by employers. To assist workshop participants, examples of practice will be provided.

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2. Envisioning the Future of Research-based Curriculum Design Using Lego Serious Play
Chad Habel
Teaching Innovation Unit, University of South Australia

All too often, curriculum design operates as in a vacuum: it is the grand achievement of a single teacherly genius, an ivory tower disconnected from all else and as autonomous as academic culture itself. No doubt there are political, institutional, and interpersonal forces at play that help shape this paradigm. In this conception curriculum works as a closed system: isolated, Newtonian, subject to unchangeable laws and amenable to a controlling design methodology from which student learning outcomes are evacuated as predictably as waste (Katz & Kahn 1966). Frameworks such as MELT or the RSD go some way towards addressing this closed design thinking, but if implemented as top-down models they may serve to reinforce the problem.

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3. Finding Employability Skills in the Curriculum: Are they there?
Lyn Torres, Barbara Yazbeck, Sebastian Borutta & Sue Bandaranaike
Monash University Library, Monash University
College of Science & Engineering, James Cook University

The pedagogy of employability relates to the teaching and learning of a range of skills, knowledge and qualities that support sustained teaching and career development, a desired outcome of higher education. Employability skills include:

“a set of achievements – skills, understandings and personal attributes – that makes graduates more likely to gain employment and be successful in their chosen occupations, which benefits themselves, the workforce, the community and the economy” (Yorke, 2006, p. 8).

To monitor the growth and application of work skills in a placement environment, the Work Skill Development (WSD) framework (Bandaranaike & Willison, 2009; 2013) was originally conceived and introduced through Work Integrated Learning Programs (WIL) at James Cook University. Subsequently in 2015, Monash University librarians and learning advisers applied the WSD to guide and make employability skills explicit in the library's research and learning skill programs in a response to the employability skills agenda.

4. Transforming Teaching Practices: A Model to Conquer Evidence Based Decision Making Skills
Manisha Thakkar, Jeanne Young Kirby, Jason Home, David Wilson & Roopa Howard
Biosciences, Endeavour College of Natural Health
Biological Sciences, Flinders University
Coober Pedy Area School
Medical Sciences, University of Adelaide
Information Technology Engineering and the Environment Divisional Office, University of South Australia

Evidence based decision making (EBDM) skills are central to teaching and learning practices, and are considered to be key competencies in the educational system. Various teaching approaches and frameworks have been implemented at different educational institutes to embed EBDM skills in the course curriculum. Research Skill Development (RSD) is one such framework that supports transformation of teaching practices and fosters accessible understanding of EBDM skills and students’ autonomy through Models of Engaged Learning and Teaching (MELT). This workshop will look at different EBDM approaches and identify how shared parameters of MELT can drive students to conquer Evidence Based Decision Making skills.
Panel Discussion Abstract

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Frameworks and Freedoms: Supervising the Undergraduate Dissertation
Gina Wisker
Contemporary Literature and Higher Education, University of Brighton, UK

Much of the current debate about undergraduate student research and particularly the final dissertation or project can be theorised considering a focus on students as partners and co-constructors of knowledge (Healey, Flint, & Harrington, 2014, 2016). This emphasises interesting tensions between freedom – to develop autonomy, problem identification and solving, research and writing skills and creating knowledge, and the role of structuring frameworks, supervision relationships, and practices. Undergraduate research supervisors might feel we are in a bit of a quandary. How far can we help manage a balance between frameworks of development and support, and the kind of independence undergraduate student researchers need to develop? If we use the RSD (Willison, 2009, 2012; Willison, Sabir, & Thomas, 2017) and other frameworks at every step of the undergraduate research journey, will this be a straitjacket? Or an essential, supportive scaffold? This paper explores some of the issues and practices of supervisors working with students. It looks at frameworks, scaffolds and the need for freedom, creative co-construction of knowledge to enable the success of undergraduate research and researchers when engaged with the dissertation, at undergraduate third year (UK) or honours (Australia).
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<td>Raissa Mataniari, School of Education, The University of Adelaide</td>
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Full Paper Abstracts

1. Achieving Constructive Alignment Using the Critical Thinking Skills Pentagon and Reflective Practice
Aurore Chow & Jack Bowers
Strategic & Defence Studies Centre, Australian National University

The Australian Command and Staff College (Joint) sets ‘applying critical thinking, research, and analytical skills to solve complex problems’ as one of its five core course objectives. Yet, as for many tertiary courses, there is anecdotal but not objective evidence that the course achieves constructive alignment with that objective. The Critical Thinking Skills (CTS) pentagon is a tool for enhancing critical thinking by “making thinking visible,” giving learners the vocabulary to analyse and reflect on their skills as critical thinkers. In a group-based, problem-based learning (PBL) exercise, this paper applies the CTS pentagon in two ways: Firstly, students engaged in a scaffolded exercise of critical reflection on their execution of group-based critical thinking skills; this exercise took place in the middle and at the conclusion of the exercise. Secondly, researchers helped course designers use the CTS pentagon to modify an existing assessment rubric to strengthen the rubric’s focus on critical thinking skills. This paper provides evidence for the utility of combining the CTS pentagon and student reflective practice to achieve constructive alignment in critical thinking course objectives.

2. Using the Critical Thinking Pentagon to Assess Facets of Learning Within Management Studies at RMIT
Susan Mate, Keith Toh & Phil Smith
College of Business, RMIT University
College of Science, Engineering and Health, RMIT University

In this paper, we will explore how we have adapted and tailored the Critical Thinking Pentagon and the Research Skill Development (RSD) frameworks to assess students' work. We also provide an overview of our research design to evaluate the outcomes of the changes made in two key subjects in the management curriculum. The purpose of this paper is to demonstrate how technologies were integrated into two management subjects to provide greater clarity about the way students apply critical thinking skills and how these are assessed by drawing on an adaption of the RSD framework. We conclude that historical and/or cultural constructs of knowledge acquisition affect student experience in management subjects, and how staff evaluated the redesign was considered in internationalised curriculum. Finally, we propose that Willison and O'Regan's (2006) Research Development framework (RSD) provides an effective pedagogical focus to reframe the way students are assessed and a framework to inform digitally designed assessment tools.
3. Scaffolding Clinical Reasoning and Decision Making: Clinical Handover
Katie Piper
Nursing and Midwifery, Monash University

Clinical handover is a dangerous time for patients. Poor communication during handover is widely thought to contribute to poorer patient outcomes. In Australia, tools such as ISBAR have been introduced in an attempt to provide a shared framework and consistent handover format. Despite the introduction of ISBAR, errors are still a prevalent issue. This paper introduces a potential solution. The Research Skills Development (RSD) framework was used as a tool for final year nursing students to apply clinical judgement and critical thinking during handover. Identifying handover as an active process will stimulate the provision of rationales for patient management, and earlier recognition of clinical deterioration.

4. Rising to the Surface: Re-designing Curriculum to Accentuate Research Skills in Second Year Pathology and Clinical Science
Manisha Thakkar
Endeavour College of Natural Health

This paper acknowledges that research and inquiry-based curriculum must commence with the foundational undergraduate years in order for students to acquire research skills and applied knowledge for professional practice. However, whole-of-program realities entailed beginning with a second-year bioscience subject of complementary and alternative medicine degree programmes at Endeavour College of Natural Health. A Model of Engaged Learning and Teaching (MELT) named the ‘Clinical Management Pentagon’ was integrated into the second year Pathology and Clinical Science 2 & 3 subject to improve students’ research and clinical analysis skills through the curriculum re-design approach. The case study assessment and related study materials were modified to incorporate the Clinical Management Pentagon. Improvement in students’ perceptions of research and clinical analysis skills was achieved after semester-long exposure to the Clinical Management Pentagon. This study demonstrates the need for long-term exposure to the research framework through whole-of-curriculum re-design, in order to accentuate research skills and enable their transfer and applicability upon graduates’ employment.
5. Rediscovering the Added Value of Research in Undergraduate Education: A Reflection Based on the Case of Chile
Ana María Yévenes
Family Science Department, Finis Terrae University, Chile

The Research Skill Development Framework constitutes the basis of the preparatory courses of the Bachelor's Degree in Social Science offered by Finis Terrae University (Chile). This pedagogic strategy, established in initial theoretical courses, is aimed at strengthening cognitive skills in students right from the beginning of the Social Science program. This short paper provides hints about the usefulness of incorporating research skills in different areas of undergraduate education that have traditionally lacked a scientific approach.

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6. Research Skill Development in the MBA Capstone Project: Tools for Facilitating Student Engagement
Colin Sharp
School of Management and Business, University of South Australia

The paper presents the preliminary findings of an ongoing research project which follows up with MBA students on the introduction of the Research Skill Development (RSD) framework. It considers the RSD as a basis for explaining to these students how their studies were enabling them to meet the AQF 9 requirements for a research (capstone) experience in the masters coursework degree. It is based on working papers presented at two professional association meetings pertaining to the use of Goal Attainment Scaling (GAS) as a student engagement tool in learning, teaching and evaluation (Sharp, 2016a; 2016b).

Evidence is presented concerning the efficacy of two tools of engagement: GAS can be used in facilitating evaluation of effectiveness of student engagement in students’ own goal setting and measurement of the learning outcomes (Sharp, 2014) in research skill development (Willison & O’Regan, 2007) for their Masters Coursework capstone project development. Also, based on these data and anecdotal consultation with MBA students, an adaptation of Willison’s RSD pentagon can be used to facilitate student engagement in strategic thinking.

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7. A MELTing Moment in UK Higher Education?
Michael Wilmore
Faculty of Media and Communication, Bournemouth University, UK
The advent of the Teaching Excellence Framework (TEF) and proposed changes to the Research Excellence Framework (REF) provide added incentives to the integration of research and education in UK universities. MELT and RSD frameworks are ideally suited to meet these needs. However, these opportunities will not be realised in practice unless leaders in higher education are able to develop approaches to professional development that not only foster academic interest, but also lead to sustained changes in teaching practice that incorporate these frameworks for research-integrated education. This paper briefly summarises one approach to academic professional development that was inspired by MELT-style approaches to education, and identifies university leadership practice as a new focus for RSD/MELT research.

8. Research Skills Development at The University of the South Pacific
Shaiza Janif
Research Office, The University of the South Pacific, Fiji

The University of the South Pacific adopted the Research Skills Development (RSD) framework in 2012 in its efforts to lift the research capacity of the region following its Strategic Total Academic Review (STAR) process. The adaptation was aimed at explicitly teaching critical research skills to university graduates and ultimately lifting the research capacity of the Pacific. The implementation process saw curriculum reform, which included the explicit development and assessment of research skills from the first year of study and flowing through to all subsequent years. Now, six years since the initial implementation, this paper looks at what worked, what didn’t, and what must evolve. The paper outlines the project implementation process, challenges, and associated costs.

9. Integrating the Research Skill Development (RSD) Framework into Master’s Curriculum at the Royal University of Phnom Penh
Serey Sok & Vanny Sok
Research Office, Royal University of Phnom Penh, Cambodia
The Research Skill Development (RSD) Framework was developed by John Willison in 2006, and it has been widely applied by faculty at the University of South Pacific in Fiji. In late 2016, the Australian Government Department of Education and Training funded Dr. John Willison to introduce this framework to the Royal University of Phnom Penh (RUPP). This paper illustrates awareness and capacity building, integration means, potentials and challenges for applying the RSD at RUPP. In order to build capacity at RUPP, various events, i.e., training sessions, workshops and international exchanges, are arranged to raise awareness and to share experiences and examples of good practice related to the framework. At RUPP, the RSD framework could probably be integrated by starting from Masters level; good practice and experience may later help to spread this to bachelor degrees. Interest from the management team at RUPP is promising; however, insufficient internal resources and faculty participation present constraints to the implementation of the framework.

10. Learning-Teaching Autonomy in Accelerating Academic Literacy Development
Ursula McGowan
School of Education, The University of Adelaide

Research in the area of supporting students’ academic literacy development has pointed to the inadequacy of generic approaches delivered as remedial support services, and called instead for the integration of the teaching and learning of academic literacy into discipline content courses. Successful models tended to involve collaboration between discipline and communication specialists. However, collaboration is resource-intensive and therefore unlikely to be sustainable unless mechanisms are in place that provide for progress from initial dependence on the adviser’s expertise towards learner and teacher autonomy. Two frameworks based on Models of Engaged Learning and Teaching (MELT) were designed for achieving this. The first uses the pentagon arrangement of the MELT facets to visualise the conceptual basis for a self-help tool for students to use for Accelerating Academic Literacy Development (AALD). The second, ALTA (Academic Learner and Teacher Autonomy) presents the MELT facets as a continuum of increasing learner-teacher autonomy. The ALTA framework is applied in my research to trace evidence of a STEM discipline lecturer’s autonomy in taking ownership of the collaboratively designed and implemented AALD pedagogy.

11. Method to their Madness: Analysing Students’ Writings Against the RSD Framework
Imtiaz Bughio, Fizza Sabir & Faraz Ali Bughio
School of Education, The University of Adelaide
Institute of English Language and Literature, University of Sindh, Pakistan
This paper presents qualitative analysis of essays written by second-year Bachelor of Linguistics students in a public university in Pakistan, based on the Research Skill Development (RSD) Framework (Willison & O'Regan, 2006a). The RSD framework has been used at several universities outside Australia, (e.g., in Canada, Ireland and Holland) to help students at the undergraduate and graduate levels develop research skills (Willison & O'Regan, 2010). Despite the fact that 90% of Government schools in Pakistan use Sindhi and/or Urdu as a medium of instruction in schools and that only ten percent conduct classes in English (Mahboob, in press), English is taught as a compulsory subject from grades 1-12, as well as in most undergraduate degree programs. It is also a medium of instruction in the universities in Pakistan. This study focuses on the research skills of students based on the facets of the RSD Framework when the participants were not aware of the framework. The researchers analysed essays written by students as class assignments. Findings revealed that there was some ‘method to their (students’) madness’. That is, the students, despite their unfamiliarity with the RSD framework, were able to demonstrate evaluative and analytical research skills that matched the facets of the RSD framework. Based on the study, we propose that the formal introduction of the RSD framework through online or on-campus workshops can enhance students’ research skills.

12. Towards a More Cogent Curriculum for Experimental Writing: A Case Study
Tim Wong & Esmael Yahya
School of Arts and Social Sciences, Monash University, Malaysia
Research and Learning Unit, Monash University, Malaysia

There is an increasing need for better curriculum and pedagogical support for teaching creative writing (Swander, Leahy and Cantrell, 2007), and more so, its subgenre, experimental writing. Using the Research Skill Development (RSD; Willison and O'Regan, 2007) framework, the curriculum document for a third-year varsity unit on experimental writing was mapped out to locate the different facets of the writing process. The exploration yielded these findings: (1) a lack of explicitly stated creative skills; and (2) an inclination towards a more serious and academic tone and mood, lacking in experimentation and risk-taking. Changes to the curriculum document hinged on (1) the number of assessment tasks; (2) the kind of assessment tasks; and (3) the rubric descriptors. The changes seemed to impact the classroom, resulting in more student engagement, and to inform another teaching and learning model for experimental writing.

13. Research-Based Education Meets MELT: Co-created Classrooms for the 21st Century
Beth Loveys, Cathy Snelling & Sophie Karanicolas
The University of Adelaide

School of Agriculture, Food and Wine, The University of Adelaide
Adelaide Dental School, The University of Adelaide

“Partnership in learning and teaching is a way of staff and students learning and working together to foster engaged student learning and engaging learning and teaching enhancement.” (1) p.15

This paper focuses on emerging practices in co-creating curriculum at the University of Adelaide. Our three case studies will demonstrate different aspects of the research-teaching nexus: course design, learning and teaching activities, assessment tasks, and learning outcomes (2). These activities have been identified as key to infusing research practices and experiences into student learning (3). The University of Adelaide has made substantial progress in incorporating research-based education (RBE) into the curriculum across all undergraduate programs and thus the Research Skills Development Framework (RSD) has been central to scaffolding undergraduate students’ experience of research. Since 2014, all students have undertaken small group discovery experiences (SGDE) in every year of their program (4). Use of flipped classroom techniques makes space in the curriculum for enquiry-based and self-regulated learning (5). A focus on career readiness has seen increased attention given to the development of generic graduate attributes alongside deep content knowledge and skill acquisition (6). We are seeking to engage more meaningfully with students as partners in their learning, which has led to the emerging practice of co-created curricula. In this paper, we will discuss our experiences in using curriculum co-design across different aspects of RBE using a fusion of Design Based Thinking (7) and the Active Cognitive Engagement (ACE) Pentagon (Fig. 1). Three diverse case studies will be discussed and key common features of these co-creation exercises will be presented.

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14. Stages of Concern: A Facilitator's Reaction to Implementing the RSD in a Community of Practice
Sylvia Tiala
Teaching, Learning and Leadership, University of Wisconsin – Stout

This case study examines one faculty-leader’s change in concerns as Willison and O’Regan’s (2007) RSD framework was introduced, via a community of practice, across four colleges at a university in the Midwestern United States. George, Hall and Stiegelbauer’s (2006) Concerns-Based Adoption Model (CBAM) was used to measure the faculty-leader’s awareness of the RSD framework; concerns about themselves relative to the RSD framework; concerns about managing tasks related to adoption of the RSD framework; and concerns about the impacts of the RSD framework at the university. George et al.’s (2006) “Stages of Concern Questionnaire” (SoCQ) was used to capture changes in the facilitator’s concern levels over time but, as Kwok (2014) asserts, the measures needed to be contextualized within the facilitator’s experience to make sense of the results. A more holistic model, like that described by McKinney, Sexton and Meyerson (1999),
may be needed to provide a more accurate picture of faculty’s willingness to embrace new initiatives such as integrating the RSD and undergraduate research into classrooms.

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15. Using the Research Skill Development Framework to Construct Marking Rubrics for Law Assessments
Thaatchaayini Kananatu
Business Law and Taxation Department, Monash University, Malaysia

This practice paper aims to document the utility of the Research Skill Development (RSD) framework in constructing (a) assignment marking rubrics for the in-semester assessment of International Trade Law, a core unit under the Master of International Business programme in Monash University Malaysia; and (b) paper marking rubrics for an undergraduate conference titled Genderworks: Dialogue and Action across Our Differences, organised by Monash University Malaysia. This paper is a story of “why” and “how” the RSD was aligned to the learning outcomes as well as the key assessment criteria for law assignments, particularly for units taken by non-law students. In using the RSD for either undergraduate or postgraduate law assignments for non-law students, this practice paper proposes that there is a need to obtain student feedback and reflection on the effectiveness of the RSD for research-based law assignments.

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Lyn Torres, Georgina Willets, Loretta Garvey, Tomas Zahora, Steven Yates & Anne Young
Monash University Library, Monash University
School of Nursing and Midwifery, Swinburne University

Background: The mapping of curriculum is particularly important for skills-based degrees with both internal and external accreditation. The MELT (Models of Engaged Learning and Teaching) frameworks, which have a theoretical foundation in Bloom’s Taxonomy, are proposed to provide a platform to assist in the process of curriculum mapping.

Aim: This paper presents two case studies showcasing a systematic process of mapping curriculum in respect to students’ research skill development and professional standards of practice.

Method: A qualitative design was used to collect and analyse data from two curricula. Data was coded in NVivo and themed according to elements of the MELT frameworks.
Results: Combined, the case studies detail (1) research skills identified and associated levels of student autonomy, (2) mapping process to assist curricula design, evaluation and renewal, and (3) the alignments between curriculum and professional standards of practice.

Conclusion: An evidence-based approach to mapping curricula can be achieved through the application of MELT frameworks in conjunction with NVivo qualitative data analysis software.

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**17. The Work Skills Development Framework applied to Students in Mexico**

E. Patricia Orozco Quijano & Sue Bandaranaike

Laurentian University, Canada

College of Science and Engineering, James Cook University

Student experiences and perceptions of Work Integrated Learning (WIL) represent a powerful source of feedback for educators and employers. A study was conducted at the Universidad de Guadalajara in the Faculty of Management using a random sample of 48 students in Business and Management studies to find out whether there are differences in perceived levels of autonomy in work skills at the beginning (pre) and completion (post) of their placement using the Work Skills Development Framework model (Bandaranaike & Willison, 2009/2016). Student perceptions were documented through a set of survey questions that identified Levels of Autonomy, for work skills, from highly structured direction and guidance from the supervisor to working within self-determined guidelines. The study is a preliminary investigation using basic descriptive statistics to compare pre- and post-placement performance of Mexican students, and based on a previous study carried out in Australia. This study is useful in that it highlights the current status of WIL in Mexico and focuses on the strengths and weaknesses among the current students.

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**18. i-Talitali Framework: Developing a Model for Engaged Learning and Teaching in the Pacific**

Narsamma Lingam, Lalita Sharma, Jiokapeci Qaloqiolevu, Waisale Ramoce, Sangita Lal & Rosarine Rafai

Oceania Centre for Arts, Culture & Pacific Studies, The University of the South Pacific

Weaving is not only an art that is significant, but it is a figurative term that might have
different connotations for Pacific People. In the search to enhance research skills and knowledge relating to Higher Education, academics and students alike are at the juncture of searching for a framework that best represents Pacific Research Skills. The UU204 Pacific Worlds Teaching Team has embarked on a project that illustrates Research Skills Development using a weaving metaphor. This paper proposes the metaphor of weaving a mat to describe the research process from a Pacific worldview that is underpinned by Pacific knowledge, skills and research values. It outlines the various methods and analysis of how a Pacific Research Framework that is appropriate to the Pacific context should be constructed and developed. The Pacific students are taken through the basic essence of Pacific Research Framework through the iTalitali Framework that the Pacific Worlds, iTalitali Team of the University of the South Pacific has embarked on.

Drawing on the weaving metaphor, we aim to use a common item in many Pacific cultures which is the mat. To sit on a mat represents preparation for learning. Thus, while our students are seated on a mat, we then take them on a journey from harvesting the raw materials to the finished product. This is the approach that we are proposing towards the Pacific Research Skills Development. iTalitali - an itaukei term for weaving. This is also the name that is given to this UU204 Teaching Staff who will be “team-presenting” this framework.

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19. The Effectiveness of 'Bolted on' Research Training
Emma Gyuris
College of Science and Engineering, James Cook University

This research considers the alignment of the curriculum and assessment design of the subject Research and Communication Skills for the Natural Sciences (SC5055) against the RSD matrix and asks which students benefit most from training in research and communication skills. The impact of SC5055 on students’ achievement and their ability to self-evaluate the development of their skills and understanding is also explored. Potential improvement for the RSD framework is highlighted.

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20. Conceptual Catch-22 in RSD for Novice Learners
Karey Harrison
School of Arts & Communication, University of Southern Queensland

This paper is based on a case study analysing students’ capacity – in terms of Research Skill Development (RSD) facets related to ‘conceptualising’ and ‘finding’ relevant information – in their first assignment for an introductory (first year) social science course. The analysis of their performance exposes a Catch-22 in the Australia & New Zealand Information Literacy (ANZIL) standards, such that
‘conceptualising’ and ‘finding’ require an understanding of concepts in the context of the discipline, an understanding that is not available to novice researchers. An analysis of what is required to effectively conceptualise and find relevant information shows that locating information is a complex task that requires research skills, not just technical search skills. Each assignment submitted for an initial first year social science assessment task was analysed for textual indicators of the approach used by the student to conceptualise key concepts, and the results were tabulated and quantified. This paper will argue that insufficient attention has been given, within RSD and sister frameworks, to the conceptual difficulties associated both with determining what information is required and in finding that information.

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21. Using the RSD Framework to Address Equity Gaps in Undergraduate Research
Jenny Shanahan
Director, Undergraduate Research, Bridgewater State University, U.S.A.

The benefits of participating in undergraduate research (UR) are most pronounced for students from traditionally underserved groups (underrepresented minority, Aboriginal, low-income, and/or first-generation students), yet access to UR in many parts of the world favours economically advantaged students with family legacies of higher education. Scaffolding research throughout required components of the curriculum is key to addressing those equity gaps. A professional development workshop with the goal of broadening access to UR was offered at eight diverse universities and three national conferences in the United States. Participants were introduced to the Research Skill Development (RSD) Framework as a means of developing students’ research skills in fair and transparent ways. They used the model to draft learning outcomes and pedagogical strategies that would apply universally across their programs. Using the RSD Framework impelled the participants to make evident how the process of inquiry and research can be undertaken by all students in their program, thereby breaking down the divide in access to UR.

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22. Investigating Refugee Secondary Student Perspectives on Models of Engaged Learning & Teaching
Judith Thomas & Fizza Sabir
School of Education, University of Adelaide

How should schools engage with South Sudanese refugee secondary students and enhance their teaching and learning? A recent doctoral thesis with ethics-approved research investigated South Sudanese refugee secondary students’ learning experiences in Adelaide, South Australia. Whilst the RSD (Research Skills
Development) Framework and the subsequent family of models called MELT (Models of Engaged Learning and Teaching) were not applied in the original analysis, the interview data displayed clear signs of the students' strong affective and cognitive acets of learning (A-F). These different facets have been called “facets of research” in the Research Skill Development framework. The classic MELT model pentagon was used to create a distinctive and new MELT model of engaged learning and teaching to provide learning signposts, insights and understandings for teachers of refugee secondary students. Examination of the students’ perspectives did not reveal a linear progression of the facets, from A to F, but rather a movement back and forth with certain facets being mentioned more frequently by the participants. Such findings can help teachers become more aware of the unique journey of refugee secondary students towards achieving their own learning autonomy.

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23. Multidisciplinary Approach to MELT use from Grade 5 to Year 12
Jason Home
Coober Pedy Area School

A 2009 study found that about 40 per cent of school students displayed unproductive behaviours regularly, with over half of these students “compliant but disengaged – they were inattentive or lacked motivation.” A 2014 South Australian study similarly reported “widespread problems with a lack of engagement.” Overcoming student disengagement is complicated. What is taught and the way it is taught are crucial. The Australian Curriculum provides the what, but the teachers are left to their own devices to provide the way in which to teach the curriculum. This author believes that using the facets of the RSD pentagon provides sufficient guidance to develop meaningful and engaging lessons for both the teacher and students, which, by reengaging the passively disengaged students, could translate to a 20% increase in student engagement in lessons.

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24. Reframing the Research and Work Skill Development Framework Facets to Support Becoming a Teacher
Deborah Heck
School of Education, University of the Sunshine Coast

Attrition in the education profession is increasing, and this is putting pressure on teacher education programs to adapt and focus on work-ready graduates. Professional experience placements have a long history in teacher education, and there has often been a focus on assessing the cognitive aspect of professional practice. This emphasis has emerged in response to the requirement for graduates to achieve a set of largely cognitive standards as a measure of their readiness for
the profession. The purpose of this paper is to reframe the facets of the Research Skills Development (RSD) and Work Skill Development (WSD) frameworks to integrate and identify the connections between the cognitive and affective domain within the context of teacher education. The facet reframing will draw on the Work Readiness Scale (WRS) currently used to assess health professionals for entry into the workforce. The current framing of language within the RSD, WSD, and WRS lacks the connectedness required to support teacher educators to develop cognitive and affective aspects required for work ready graduates. Hence, a hybrid reframing of the six facets has been developed to support teacher educators to develop programs that evidence a fluid connection between cognitive and affective aspects of becoming a teacher. Further research will explore the breadth of student journeys to becoming a teacher and developing their work readiness from the commencement of their program through to graduation.

Sue Bandaranaike
College of Science and Engineering, James Cook University

The Work Skill Development [WSD] framework is a learning and teaching model applied in the context of Work Integrated Learning [WIL] to facilitate an understanding of a placement role, resource utilisation, planning and management, lifelong learning, problem solving and critical thinking, and communication in the workplace. It attempts to narrow the gap between the triad partnership of placement students, educators and employers. The primary focus of the WSD is in teaching and learning work skills through reflective practice, and identifying employability pathways. The objective of this paper is (1) to outline the WSD framework and its application and contribution to contemporary teaching and learning in WIL, and (2) to predict future use. The WSD methodology follows a logical extension of the Research Skills Development [RSD] framework (Willison & O’Regan, 2006), to work skills. The paper outlines the many-faceted applications of the WSD model - from employability to career management; from the cognitive focus to the affective (social, emotional, cultural intelligence), and its potential use in the changing workplace of the future.

Diane Mayorga
School of Accounting, Business School, University of New South Wales
Over the last decade, considerations about the changing skill set required of accounting graduates have grown due to rapid changes in the work environment, technology and outsourcing of accounting tasks previously undertaken by entry-level accounting graduates (e.g., Chaplin 2017; Hancock, Howieson, Kavanagh and Kent 2009; Jackling and De Lange 2009). In addition, employers are placing greater emphasis on soft skills such as communication, collaboration, leadership and interpersonal skills (e.g., Jackling and De Lange 2009; Van Akkeren, Buckby and MacKensie 2013). Recent semi-structured interview data suggests that employers also believe that graduates should be comfortable making decisions under conditions of ambiguity as organisations rely on larger volumes of data and analytics for their strategic decision-making. Given these latter expectations, consideration should be given to providing more educational opportunities which cultivate accounting students’ ability to exercise appropriate professional skills and values. This paper describes how key professional skills and values are integrated into the Work Skill Development (WSD) Framework. This modified WSD Framework is called the “Professional Skills Growth” (PSG) Framework. The paper then briefly discusses how the PSG Framework is currently being used in an accounting and business management work integrated learning (WIL) program. It concludes by discussing challenges and opportunities in assessing professional skills and values.

Ernest Baafi, Ray Tolhurst & Kevin Marston
School of Accounting, Business School, University of New South Wales
Faculty of Science, University of New South Wales
School of Civil, Mining and Environmental Engineering, University of Wollongong

The application of the Work Skill Development (WSD) Framework to the issue of minerals industry employability is outlined, including how an enhanced curriculum model is being used to help students develop independence (WSD level 3), self-actuation (WSD level 4) and self-determination (WSD level 5). The model is based primarily not on what the university or students want. Rather, through reverse-field analysis, the model is based on evidence of what minerals industry employers require and what students can do to meet these expectations. Some of the outcomes of this approach are presented, and recommendations for the future are suggested.

28. Optimising Problem Solving: Students Adapting the RSD so that it Would Speak to Students
Siddharth Shah & Dorothy Missingham
School of Mechanical Engineering, The University of Adelaide

Undergraduate student tutors working with first year students in a core Mechanical Engineering course have been leading an active, democratic, student-centred learning approach for a number of years. As part of their tutor training (a process which they initiated) tutors were introduced to the Research Skill Development (RSD) framework in 2012. Commenting on the RSD, one tutor stated, “This is what has been missing from our own engineering (education) … we can help our first years better with this understanding”. Approximately 18 months later, tutors revisited the RSD to reflect on adapting its use so that it would speak to students working within constructs of the engineering method. Over a series of intensive workshops, tutors developed the Optimising Problem Solving (OPS) pentagon that, whilst respectful of and consistent with the RSD, has introduced a multi-directional, iterative approach reflective of mechanical engineering. Each year, as some of the student tutors graduate, new members join the group of tutors, and the use of OPS is applied and refined to promote learning amongst the subsequent cohort of first year students. In this session, tutors will discuss the development of OPS, their experience of engaging students in collaborative exercises, and of peer teaching and student leadership of students.

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29. Keep Calm and Carry a Pentagon
Leonie Vervoort
Internal auditor, Holmesglen Institute

This MELT-in-your-mouth paper introduces a variation to the Optimising Problem Solving (OPS) pentagon. Low numeracy skills in adults are widely recognised as a significant concern. Addressing this issue is essential in Vocational Education and Training (VET). The context of this paper is numeracy skills support within the VET sector. Programs which increase numeracy skills of adults, delivered by adequately experienced and qualified practitioners, are needed. The Innovative High Achieving Template Enhancing Maths (Maths Template) was created as a tool for enhancing learning and supporting numeracy skills. Being adaptable to suit diverse environments, it has a broad range of uses. In a user-friendly, uncomplicated practical way, it provides a calm step-by-step approach to skills development. The three key concepts of the Maths Template are familiarity, confidence and competence.

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30. Integrating Problem Based Learning and Research Skill Development: An Example from a Master’s Teacher-Leader Course
Tara Shepperson
Educational Leadership, Eastern Kentucky University
This paper presents an exploratory analysis of a course that integrated Problem-Based Learning (PBL) and the Optimising Problem Solving (OPS) version of the Research Skills Development (RSD) model. Data were drawn from course assignments and end-of-course evaluations of 86 students who participated in four separate sessions from fall 2016 to summer 2017. This leadership master's course was designed for working teachers who built problem-to-solution projects based on their actual school experiences. Descriptive analyses found that the PBL and OPS frameworks aligned not only conceptually, but in the steps of the problem-to-solution process. Most valuable, however, was the application of the OPS framework in the student evaluations of the course. Findings suggest that PBL and OPS successfully integrated to scaffold authentic learning and provided a means to gauge course outcomes.

31. Teachers’ and Tutors’ Perceptions of the Optimising Problem Solving (OPS) Framework for Solving Math
Shinta Sari
School of Education, The University of Adelaide

At the point when this study was conducted, the OPS framework had already been implemented for some time by tutors in the University of Adelaide’s Mechanical Engineering program. The framework helps tutors in teaching problem solving and improves students' problem-solving abilities. (Willison et al., 2016, pp. 8-9). This study aims to investigate and critically analyse teachers' and tutors' perceptions regarding the implementation of the Optimising Problem Solving (OPS) framework in mathematical contexts. This research is an ethnography study with a thematic content analysis approach. It found three aspects of the OPS framework to be important in the context of mathematics teaching; concept, structure, and the holistic nature of the framework. Further studies should use actual academic results as outcomes.

32. Using the Optimising Problem Solving Pentagon as a Basis for Research Skills in Final Year Engineering
Purush Karu, Hien Tran Minh & Belinda Sta Maria
Research and Learning Department, Library and Learning Commons (LLC), Monash University Malaysia

This paper describes a collaboration between the library and the Engineering Faculty at Monash University Malaysia, using one of the Models of Engaged Learning and Teaching (MELT) known as the Optimising Problem Solving (OPS) pentagon. The setting where the OPS has been applied is in a Final Year Engineering Project (FYEP) where students are required to complete a research project relevant to the discipline. To complete the research project successfully, students need to acquire
research skills. This paper focuses on describing a targeted library program for students undertaking this unit, which contributes essential research and academic skills to enable students to complete their project paper. The program covers thesis formatting using Microsoft Word, management of references and citations using EndNote, literature review writing, writing and structuring the report and giving an oral presentation of the report. All the component skills contributed by the library can be mapped to the six Facets of Research described in the OPS pentagon – a distilled version of the Research Skill Development (RSD) framework. The research skill facets within the OPS pentagon may vary in positioning, which provides fluidity when applied to the context of different research projects. Using the OPS pentagon with students can help with explaining research skills in a way that is more digestible than the grid format of the RSD framework. This paper recommends the use of the OPS pentagon for unpacking the problem solving aspect of research projects undertaken during the final year of engineering studies.

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33. Evaluating Student Engagement and Learning Outcomes Through E-learning in Biomedical Sciences
Rebecca Donkin & Elizabeth Askew
Discipline of Biomedical Sciences, University of the Sunshine Coast
Faculty of Sports, Health, Education and Engineering, Sunshine Coast

Formative learning activities integrated into curriculum design that include timely and useful feedback are recognised to have a positive effect on learning outcomes. Nonetheless, there is limited evidence that activities involving e-learning also have this positive effect. The aim of this study was to evaluate the effectiveness of e-learning formative activities in a biomedical science course to assess whether learning is enhanced by using this resource. To address the research question, the MELT framework was adapted to determine whether the research significantly increased knowledge, as measured by improved assessment grades. Results showed a statistically significant increase in mean summative assessment score and final grade for students who completed the formative e-learning module. E-learning resources are an option for all educators but are particularly suitable for those who have reduced face-to-face contact hours and follow the MELT framework to teach the basic sciences.


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34. Research Skill Development (RSD)-Integrated Online Report for Critical Thinking Skills
Raissa Mataniari
School of Education, The University of Adelaide

This study aims to examine the use of a Research Skill Development (RSD)-integrated online report in an Indonesian context for the teaching of critical thinking skills. Action research was adopted as the methodology, because it enables researchers to apply and evaluate the initiative directly in the targeted populations. The action research was conducted in one class, to provide a rich and detailed understanding of the factors involved. The project was undertaken in a Plant Physiology class in the Biology Education Department at the University of Jambi, Indonesia. Questionnaires and interviews were conducted to analyse the effectiveness of RSD-structured laboratory reports in developing student critical thinking. Student participants were asked to answer a questionnaire after using RSD-integrated online reports at the end of the semester. Additionally, the lab tutors were interviewed about their perspectives on student engagement with the online laboratory reports.

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35. Let’s Make It Real! Approaching Engaged Learning from Authentic Contexts Across Disciplines
Kristen den Exter, Jonathan Purdy, Adele Wessel, Liz Reimer, Pascal Scherer & Michael Whelan
School of Environmental Science and Management, Southern Cross University
Centre for Teaching and Learning, Southern Cross University
School of Arts and Social Sciences, Southern Cross University
School of Business and Tourism, Southern Cross University
School of Environment, Science and Engineering, Southern Cross University

This paper describes the initial development of three models of engaged learning and teaching (MELT) across a range of disciplines and pedagogical approaches at Southern Cross University, arising from a codesign process as part of the Engaged Learning Incubator Project. What links these approaches is that they are all underpinned by experiential learning and learning that is situated in authentic community and industry contexts. There is a continuum of possibilities for student autonomy within these contexts. The integration of community and student engagement, and identifying the explicit skills required, is being explored in some units via the use of models of engaged teaching and learning during curriculum
renewal. Existing MELTs have been drawn upon when developing these new models. This presentation will explore the next steps for the Collaboration MELT where Action Learning has begun to emerge as a way to engage students and community partners as co-learners in the collaborative process. While these MELTs are yet to be tested in the classroom, it is timely to explore our initial models with others and increase our co-design capacity for engaging others who may, as part of the ‘Engaged Learning Incubator’ project, want to develop their own MELTs.

36. Developing a Practice-Based Approach to MELT for Higher Education in Business Management
Kasun Chandrasekara
Australian Institute of Business

Perhaps no other discipline has experienced more persistent criticism during the last decade for irrelevance of teaching practices than business and management education. Among the many challenges faced by business educators, this paper highlights the inadequacy of the curriculum and assessment design approaches adopted by educators in developing the expertise and soft skills required by today’s managers and entrepreneurs. By synthesising practice-based theories in management science with MELT frameworks, it presents a new curriculum and assessment design framework so as to better facilitate adult learning in business education. It also shows how some limitations of current MELT frameworks for business education can be successfully overcome by adopting practice-based theories in management science. Finally, it demonstrates the applicability of the proposed framework to four major sub-disciplines in business, and opens up the opportunity for future research to further expand and evaluate its effectiveness in developing expert practitioners in the business discipline.
MELT journal? Fluid thinking

Discussion Points for Tuesday 12 December 2017, Lunchtime in Ferguson Room. John W, 3/12/17

Rigorous research, based on MELT parameters, written for teachers of Early Childhood to PhD.

- Shared parameters of the six MELT facets + extent of autonomy
  - Shorter background than current articles
  - Direct building on or critiquing recent MELT work
  - 3500-4000 word articles (10,000-word rich data considered, sent as EoI to editor)
  - High rigour. All piloted and several spirals of implementation. Using standards of qualitative, quantitative or mixed methods research.

- Open access: free to all, from submission to downloading
- For practitioners to read substantial and applicable research
- To add rigour and applicability to educational research
- To build an educational canon through allowing everyone to be at the same table but to argue about the meal.

<table>
<thead>
<tr>
<th>Why?</th>
<th>Why not?</th>
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<tbody>
<tr>
<td>Build a ‘canon’ of education knowledge</td>
<td>‘Club’- single loop thinking. Self-confirmation bias</td>
</tr>
<tr>
<td>Incentive to increase rigour of research</td>
<td>ERA points- how long/how low/if?</td>
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<tr>
<td>Encourages currency, building from recent findings</td>
<td>Not supported by an association, but informal or conceptual network</td>
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<tr>
<td>Critiques more powerful and helpful- more targeted</td>
<td>Narrow readership</td>
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<tr>
<td>2016 calls for a consolidated framework for Action Research¹</td>
<td>Editorial and peer reviewer effort</td>
</tr>
<tr>
<td>Niche space in T&amp;L</td>
<td>Lots of competing journals in T&amp;L</td>
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¹A recent meta-analysis of RBL approaches found:

Which types of guidance are appropriate cannot be determined on the basis of the existing reviews and meta-analyses. This seems at least in part due to the fact that guidance is often classified ad hoc on the basis of the included studies. Using an a priori classification based on a theoretical framework might be more fruitful and ease interpretation of the findings (Lazonder & Harmsen, 2016 p. 684, italics added).

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