

*Executive Summary*

## **Tools for Learning Design Research Project**

**Exploring new approaches to  
professional learning: Deepening  
pedagogical understanding of Singapore  
CET trainers through meta-cognition and  
practitioner-based research**



June 2012

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Published by the Institute for Adult Learning (IAL), Singapore  
Research Division

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## Institute for Adult Learning, Singapore

The Institute for Adult Learning (IAL) aims to contribute to the competitiveness of Singapore by developing an effective, innovative and responsive Continuing Education and Training (CET) sector that is able to meet the needs of industries and the workforce. It achieves this by raising capabilities, catalysing innovation, and leading research in workforce learning.

## Centre for Research in Learning, IAL

The Centre for Research in Learning (CRIL) undertakes research that seeks to understand and develop the processes and practices of learning, teaching, assessment and curriculum design in the CET sector from multiple perspectives, settings and contexts. We work with those taking part in research projects, engaging practitioners in the research process and thereby developing communities of practitioner researchers.

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**Dr Helen Bound** is a Principal Research Fellow with the Institute for Adult Learning where she heads the Centre for Research in Learning (CRIL). She has a background in vocational training and education, having coordinated the Bachelor of Adult and Vocational Education at the University of Tasmania. Her research work focuses on learning across a wide variety of contexts, including workplace learning, e-learning, professional learning and learning through collaborative activity. She has published on a range of topics including professional development of vocational teachers, workplace learning, online learning and the development of research instruments.

# Acknowledgements

Undertaking this research study and the writing of the report was possible because of the work of the following people:

- Kristine Yap, Research Officer, who provided ongoing support and coordination. She offered invaluable critical feedback and made suggestions as we were writing up the report.
- Our IAL colleagues: Koh Tat Suan, Renee Tan, Low Giau Kim, Lee Wee Chee, Michael Choy and Peter Rushbrook who also provided valuable feedback to the findings and implications of the study.
- Renee Tan, for her assistance in running the ecology room workshop and for content used in the Tools for Re-imagining Learning website.
- The team who assisted us with the workshops, publications and the Tools for Re-imagining Learning website: Li Siwei, Hafizah Rahim, Magdalene Lin, Mohammed Ismail, Marianne Daniel and Kelvin Tan.
- Lastly, the participants who contributed their time, commitment and energy, and together created a trusting and caring group.

A website for trainers, curriculum and learning designers, and training leaders, called Tools for Re-imagining Learning, has been created to complement this report. The website features resources for reflecting on teaching practice and undertaking practitioner research as well as “meta” tools designed to be used with learners. Please visit [www.ial.edu.sg](http://www.ial.edu.sg) for more information.

We'd be happy to receive feedback or queries on this report and the Tools for Re-imagining Learning website. Please write to us at: [researchpublications@ial.edu.sg](mailto:researchpublications@ial.edu.sg). We look forward to hearing from you.

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June 2012

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# Executive Summary

## The Tools for Learning Design research project

The Tools for Learning Design (TLD) research project aimed to explore how a professional learning model of integrating meta-cognitive

Meta-cognition is “thinking about thinking”

processes with practitioner-based research might deepen the pedagogical understanding of the Continuing Education and Training (CET) training leaders, thus leading to greater innovation within their work contexts.

The design of the professional learning programme aimed to redress a number of concerns or constraints found in the existing system in professional learning delivery, for example:

- Divide between workplace learning and classroom learning, meaning that learning is often not embodied
- Modularisation of professional learning into isolated events, thus limiting the opportunity to deepen pedagogical understandings
- Difficulty of innovating within tight boundaries set by accreditation system

Features of the professional learning programme included:

- An experimental 15-week programme delivered by IAL researchers Dr Sue Stack and Dr Helen Bound
- Nine participants from CET providers, polytechnics and IAL training division
- Emergent design processes – pre-interviewing the participants to understand their needs and their existing understanding in order to design introductory workshops. These workshops helped the participants reflect on current pedagogical knowledges, challenge assumptions, explore other models of teaching and learning and build research skills. Many innovative tools were developed to assist the learning, often as a result of collaborative learning with the participants.
- Twelve weeks of practitioner research projects in the participants’ own workplace contexts. The participants’ research questions were developed

### Research Questions

- How can we deepen pedagogical understanding and inquiry of CET training leaders through using meta-cognitive tools?
- What tools are helpful in facilitating meta-thinking about teaching and learning, and how can they be recruited for other professional learning of CET personnel?
- What are the affordances, issues and challenges of creating a professional learning programme like this, and what can be recruited for further professional learning of other CET personnel?



through considering new perspectives in terms of pedagogical knowledges, drawing from core values and bringing in an aspect of meta-cognitive thinking or tools for learning. Support was given by the facilitators during this period.

- Presentations of the participant research projects at a final workshop where each participant contributed an understanding that built a larger picture of the whole training system and its issues and potentials.

The context for the research is described in Chapter 1, the framing concepts in Chapter 2, the research approach in Chapter 3 and a thick description of the processes is given in Chapter 4.

## Participant research and innovation projects

The participants were able to research and innovate within their workplaces to various degrees. Five of the projects have been written up as stories in Chapter 5. The following are short descriptions of the participant projects:

### **Joy of learning**

Bill was interested to find out how the joy of learning can enhance learning in his classes. He used Brookfield's critical incident questions (1995) in his classroom to find out how his learners (trainers in other organisations) were experiencing the module and the way it was being taught. He also reflected and journalled about his aims, dilemmas and experiences in his classes, which he shared with his learners. This resulted in increased openness, sharing and participation between members. As he let go of the expectation that he had to be perfect as a teacher and know all the answers, he became increasingly authentic. Bill built strong, meaningful and mindful relationships with his learners who deeply valued his authenticity and the modelling of different approaches to teaching. Through Bill's modelling of the vulnerable reflective practitioner, his learners were also inspired to deeply reflect on who they are as trainers and to involve their own learners in reflective processes.

### **Improving the quality of feedback for students**

Anita began the journey to develop feedback skills of her nursing clinical facilitators by bringing them together. She asked them to reflect and write journals as they worked with students in the field. They used one of the workshop's tools for learning, the dialogical inquiry model, to prompt deeper reflection about the sort of feedback given. It became evident that there was a tendency to scold the students – to see them as having weaknesses to be corrected. By seeing this as just one paradigm of learning (teacher-centred), Anita could then consider other paradigms to provide alternative ways to construct feedback, for example, student-centred (concerned with the development of students and their perspectives) and subject-centred (conversations that enable both the teacher and students to gain new insights) paradigms.

## **Exploring peer assessment**

Philip started with tackling the idea of introducing peer assessment in his programming course in order to give students greater power in the assessment process. Through thinking about the goals he wanted peer assessment to achieve, he developed an understanding that teaching skills in small bits does not develop the vocational identity of being a programmer, but only develops an incomplete set of programming skills. He developed a set of questions to get insight into his students' thinking and experience of the course which helped him better craft his delivery of the course. Through the building in of conversations and reflections about learning strategies and thinking as part of student work, students have gained a greater awareness of the processes they use and are now able to see other points of view.

## **The being and becoming of a trainer**

Michelle was interested in why and how trainers become trainers and stay in the profession, what makes a good trainer and what challenges they face in their careers. She used one of the tools for learning processes, the "ecology room", as a way of eliciting information from a group of trainers through their responses to a range of activities. The emerging rich set of artefacts, values, stories and perspectives surprised Michelle, exposing the human face and the importance of considering the "being and becoming" of the teacher/trainer when devising strategies for the professional development of trainers. This project helped Michelle to weave together her PhD studies with her own work role in the professional growth of trainers. From this, she hopes to tell the stories of the "being and becoming" of trainers to help inform system development.

## **Better assessment access through technology**

John's original intent was to develop assessment tools that integrate learning across and between modules. The implementation of this idea fell through; he reported that it would require time-consuming and difficult negotiations with the Singapore agency for quality assurance. Instead, he introduced Skype as a means to save participants the trip to the provider's premises to undertake the assessment. Even so, for the pilot, participants had to go to the provider's premises because he understood that it would otherwise be a breach of the quality assurance rules that require face-to-face assessment.

## **Theory/practice divide**

Marie initially aimed to get an understanding of her trainers and their students through administering questionnaires which gave frank and illuminating answers. This highlighted some key areas that could be improved. One of these was the divide between the theory and practice of learning from having one day of practical and one day of theory, which was tedious for both students and trainers. A first step was breaking these into half days. A key insight was about her trainers – although elderly,

they still had a desire to learn new things. This, then, opened the way for introducing the use of iPads in the practical classes for reference to theories and bridging some of the theory/practical divide.

## **Evaluation of DACE**

Jimmy took the opportunity to design a multi-probe evaluation of the Diploma in Adult and Continuing Education (DACE) programme which he had been partly responsible for in its delivery, design and management. Using a mixture of questionnaires, investigation of artefacts and focus groups, he collected evidence that suggests that DACE has achieved not only what it originally intended – in developing the professionalism and capacity of trainers beyond the Advanced Certificate in Training and Assessment (ACTA) programme – but has also developed strong and enduring peer relationships and community of practice. These communities are important cohorts that can be targeted for continued professional learning and dialogue. Through the project, Jimmy was able to better articulate his own values and identify the need for the system to grow individuals to grow the system, and to see himself as the human face of the system, providing space for others to grow.

## **Bringing constructivism and humanism into the design of modules**

Fettia originally intended to explore how to bring constructivist and humanist principles into the design of some new modules. Her organisation was in a process of getting a large number of new modules ready for accreditation with the Singapore agency for quality assurance. The limited time frame, the demands of the process, including the amount of documentation required, and her lack of experienced staff meant that she found herself unable to create time and the team to consider the modules from these new perspectives. Further, she herself felt dehumanised by the dynamics of the situation. Her story highlights some of the barriers to change and how, although some ease may be found through one or two strategies (e.g. help by mentoring), it takes a much broader strategic approach to break the cycle of continued practice.

## Emergent themes

As part of the research, video footage of the workshops, transcripts, presentations, interviews, artefacts and conversations were analysed for key themes. These themes are more fully explored in Chapter 6.

### **Theme 1 – Deepening pedagogical understanding through meta-cognition**

Our key research question was to investigate how meta-thinking might deepen pedagogical understanding. We found that meta-thinking was intertwined with related processes of inquiry, dialogue and reflection. It was influenced and shaped by and through various tools, personal motivation and opportunities for praxis and feedback within participants' own contexts over time. It was fostered within a learning environment where dialogue was intrinsic to participation, enabling the development of a vulnerable community of care.

This enabled a level of reflection beyond the technical reflection that teachers might normally engage in on a daily basis to improve their teaching. Particular tools were important in mediating this, for example, the “ecology room”, being in multiple roles, modelling of new possibilities, experiencing difference, Dialogical Inquiry Model, Integral Model, and metaphors of teaching and curriculum.

What are the affordances of such a professional learning programme?

- Better articulation of pedagogical beliefs, intents and origins
- More nuanced understanding of system dynamics and cultures
- Change in mindsets, practice
- Being able to adopt and trial in the workplace
- Contribution to professional dialogue, networking
- Developmental growth
- Better alignment of purpose, values, practice
- Creative new products
- Impact on student outcomes or others
- Development of own indicators and goals for own learning
- Self-inquiring practitioner skills
- Learning that becomes embedded in work-practice
- Networking
- Being able to compare own contexts and experiences with others, and to bring their perspectives into reframing one's own issues

## Theme 2 – Being human

A key theme that emerged unexpectedly from the project was the need to bring the human being into the picture. This has many dimensions, issues and levels. The following factors give us an idea of this complexity:

- The teacher/trainer being able to express and be acknowledged for her humanness – her heart, values, creativity, authenticity, capacities, journeys, culture, issues and tensions
- The way the teacher/trainer sees her students and relates to them
- The way the teacher/trainer is treated in her workplace and over the course of her career
- The design of the curriculum or learning to give space for both the teacher and students to express, choose their own pathways, expand, grow, flourish and transform
- The type of processes used, the paradigms of learning, assessing and determining the success of programmes.

For a number of participants in the project, a key aspect of *being human* and “*bringing the human being along*” is the opportunity to grow, to “become” – to *expand*. Three key dimensions of growth emerged from participants’ experiences:

- **Presencing** – a greater awareness and connection with self, others and the universe, an opening of heart and soul that enables mindful relationship – an expansion of being
- **Transformation** into new cognitive frames or developmental stages, trying on new roles and identities, adopting new mindsets – an expansion in terms of developmental altitude
- **Flourishing** within existing developmental stages or cognitive frames – creating new experiences, building new understandings and skills, enabling new practice – good learning

It is critical that we understand how the system acts to constrain or enable such growth, and design fluidity and flexibility into systems so that they can grow with humans, and help grow the humans who can then grow them. We need to see growth of the human being as more than *in-form-ing* (with skills, knowledge, and attitudes) within existing frames, which is the predominant metaphor of the competency-based training sector. The human dimension offers new possibility and revitalisation – accessing latent deep needs to contribute and create with care.

### **Theme 3 – The power of context and agency**

A key aspect of the participants' learning was associated with praxis – putting something into practice within their own contexts, thus requiring agency to do so. The level of agency depended on the participants' locus of control (and freedom), their position in their organisations, their understanding of their contexts and their perceptions of barriers (external as well as inner attitudes and habits). The negotiation of agency was, for many, complex and problematic. It was more than creating space for learning; it also became the content of learning.

A historical legacy has been created that works strongly against innovation and creativity. Jimmy's observation that being able to express his values gives him power to grow the system is an astute reminder that we must give room and trust in people's abilities, passion and commitment. When there is greater alignment between our own values and those of the system within which we work, there is greater opportunity for creativity and innovation.

We have conceptualised these constraints not as "outside" the individual, but as system and structure being embodied in individuals and collectives. Structure exists only in and through the activities of human agents (Giddens, 1984). Thus it is possible, therefore, for individuals and collectives to either reproduce those constraints and/or challenge and potentially change them. Jimmy's question, "How can we help to grow the system that can help grow us?" is an important one. The message in this report is that trainers feel a need for greater alignment between themselves, their values, roles and their work.

## What are the implications of this research for professional learning of trainers?

See Chapter 7 for a full discussion of the implications of the research. Some of the implications and affordances are listed below.

FINDINGS	IMPLICATIONS
<p>The meta-cognitive tools that were used played important roles in</p> <ul style="list-style-type: none"> <li>• developing and expanding professional pedagogical knowledges</li> <li>• helping to frame research projects, connecting to participants' deep values and concerns, and liberating perspectives from usual construal of problems</li> <li>• acting as tools or probes for participants in their own projects</li> <li>• providing leverage for some individual transformation or growth</li> </ul>	<p>As a product of the research, a website for trainers is being set up with 18 meta-cognitive tools, background concepts and the participants' stories as exemplars. Key tools include the "ecology room" and dialogue.</p>
<p>Practitioner-based research models for professional learning have considerable potential in</p> <ul style="list-style-type: none"> <li>• helping to bridge the divide between classroom learning and learning through the workplace context</li> <li>• illuminating understandings about the system and organisational dynamics</li> <li>• encouraging contribution by learners to their workplace through investigation or innovation</li> </ul> <p>However, for effective deployment as a professional learning strategy, there needs to be system and organisational support. (See discussion in Chapter 6</p>	<p>An ongoing culture of practitioner-based research is encouraged through embedding professional learning programmes in IAL. The above website will be used to collect new stories of practitioner-research to encourage sharing of best practices and lessons learnt.</p>

and Chapter 7 for recommendations.)

Emergent design of professional learning programmes alongside research enables the opportunity for innovation and surprise. This is a useful process when wishing to develop out-of-the-box approaches that can illuminate existing mindsets and barriers, and find new perspectives and ways forwards.

We recommend a holistic approach to professional development through rethinking the values of individual stakeholders – and their roles as researchers, trainers, designers, leaders, quality assurers or workplace managers – to consider what values need to be preserved and the necessary support needed to address the cultural, systemic and visionary issues synergistically.

## A new model of professional learning

We suggest a holistic approach to professional learning in the CET sector that should consider four key metaphors for professional learning, each dimension contributing to a synergistic whole. These are:

- **Professional learning as delivery** – provision of skill-building or content-based courses (reflects the current system)
- **Professional learning as growth** – the individual is seen as a person, a part of many wholes with a life trajectory of learning and growth.
- **Professional learning as praxis** – professional learning or growth that comes out of investigating and changing one's practice, or changing the contexts surrounding one's practice. This enables participants to actively contribute and build systems while engaged in their own professional growth.
- **Professional learning as dialogical inquiry** – professional learning that is conversational, within a community of inquiry, and which enables dialogue between different perspectives and possibilities. This provides the glue between the other metaphors.

In Figure A, we show how these four metaphors might work together. In the inner darker circle are specific systemic strategies that might support these, and in the outer circle are some of the reasons or values behind these.



**Figure A. Professional Learning Metaphors**



## Recommendations

Recommendations are available separately. For further information please contact Dr Helen Bound [helen\\_bound@ial.edu.sg](mailto:helen_bound@ial.edu.sg).

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