Using the Critical Thinking Pentagon to Assess Facets of Learning Within Management Subjects at RMIT

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Abstract

In our study, we explore how models of engaged learning and teaching MELT resources create authentic learning experiences for students. We provide an overview of our research design to evaluate the outcomes of changes made in two management subjects: Organisation Analysis and Management Essentials. The purpose of this paper is to demonstrate how technologies were integrated into the subjects (Digitised resources) to provide greater clarity about how students apply critical thinking skills. The redesign of two management subjects involved building specific facets of enquiry and reflection based on the MELT principles.

Introduction

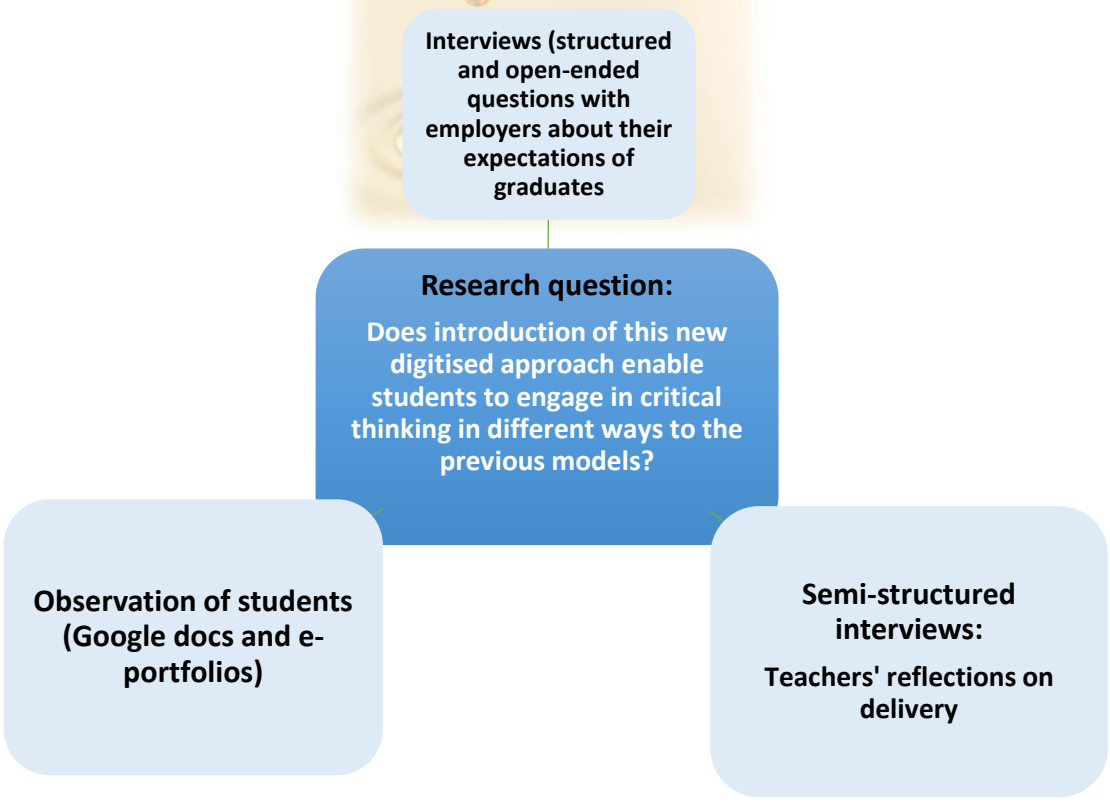
Disciplinary thinking has often driven the design of management subjects, often requiring students to think critically about discipline-specific content. Over the past few years, there has been a push from the university to engage in more authentic learning approaches, at times through a work-integrated learning framework that focuses on how students gain proximity to internships or practical placements (Torres, Bandaranike and Yates 2014). Some measures of employability have included the integration of narratives into the curriculum (Mate and Ryan 2014). Over a twelve-month year period (throughout 2017), we redesigned two management courses offered at several RMIT campuses to gain a deeper understanding of the impact of the model. The redesign introduced a more student-driven approach for the subject Organisation Analysis and Management Essentials. In each subject, they are asked to think critically by drawing on the facets of inquiry outlined in the Melt framework. For the two courses, the students focus on an inquiry into 'live' contemporary problems, specifically, how to responsibly manage diversity (Management Essentials previously known as Introduction to Management) and critically redesign organisation-based systems (Organisation Analysis previously known as Organisation Theory). We also included a blended approach to the curriculum design, to provide greater opportunity for students to

engage with digital materials outside the classroom. Further, we also pair students with an industry mentor at the completion of the subject and students who create an effective e-portfolio are selected for the industry mentor program within the management essentials subject.

The objectives of the present research are to examine this practical application of the MELT frameworks, particularly the digitised instruction of critical thinking, and to evaluate whether the redesigned curriculum improves student engagement in critical thinking. The broad research question asks: Can digital tools be used to measure critical thinking? And if so, how do the models of engaged teaching and learning provide a framework for students to develop independent critical thinking capacity? In this paper, we provide an overview of the redesign and the method adopted to evaluate the effectiveness of the approach.

Methodology

In this initial phase of the research, we aim to determine employers' expectations of critical thinking skills for potential employees. Presently, our ethics applications have been approved and data collection is currently underway with employers. Next, we will be exploring teachers' perceptions of the delivery of the redesigned curriculum and assessment tasks. We intend to interview teachers at the beginning of the next semester and again at the end of the semester to gain an understanding of how the redesign may add value to student engagement and autonomy. We will gain the students' perspectives of the curriculum at a later stage in the study. The initial phase of the design of this study is outlined below.



Throughout the study, we will draw on a narrative methodology to gain insight into employers', teachers' and students' perspectives about teaching and learning (Beattie 2009, Mate 2010). Beattie (2009: 4) suggests that narrative inquiry has ontological value in the exploration of 'the stories that have formed us', and **the understanding of identity is a continuous** reconstruction through 'inquiry, dialogue and interaction'. Analysis of transcripts of semi-structured interviews with teachers and employers will inform the critical skills framework and further refine the way we consider the skills required. The table below provides a summation of how the MELTs were applied in the two subjects.

RSD Facets	**MELT pentagon questions**	**Management Essentials critical thinking questions**	**Organisation Analysis critical thinking questions**
Embark and Clarify	What is our purpose?	**Explore how managers responsibly manage diversity**	**Identify an organisation system that needs to be improve and evaluate how to redesign the system**
Find and Generate	What do we need?	Identify what is problematic	Find what is not working
Evaluate and Reflect	What do we trust?	What can we test? What theory can apply?	What can we test? What theory /models apply?
Organise and Manage	How do we arrange?	What data model will we use?	What process approach will you suggest and why?

Analyse and Synthesise	What does it mean?	What feedback will help to test the problem?	Analyse the implications for organisational design.
Communicate and Apply	How will it relate?	**Prepare a poster to summarise your knowledge in assessment 1 and in assessment 2 as an individual present information in your e-portfolio**	What are the implications of your change model?

The bolded sections are in part prescribed for the subjects.

Critical Thinking

The redesigned course now involves students reflecting on the application of the facets of the Research Skills Framework and contrasting this with two key models within each subject. For example, we have moved away from conventional reflective models (Kolb, 1984; Johns & Graham, 1996) and now ask students to consider how they work with a group and independently. Duran, Limbach and Waugh (2006) identified a five-step model for critical thinking, which is intended to be used by teachers. However, in the Management Essentials course, we have adopted this model as a student guide and contrast it with the research development framework, and ask students to draw from it when reflecting on how they undertake inquiry (see Appendix 1).

Further, as this curriculum is being implemented in Australia and Vietnam, we will explore how it is adapted in the two countries and how the students create different e-portfolios, a key assessment task in the new Management Essentials program. We are interested in exploring how the renewed new subject may be adapted in different cultural contexts, along with how the MELT resources are adapted in each of the courses.

Conclusions

We believe that IMELT models may provide a rich way to explore the research-based learning required to inform digitally designed assessment tools. Through this evaluation of our redesigned model, will hope to define the usefulness of digitisation of the critical skills thinking framework in engaging students in their learning. In this presentation, we will provide an overview of the redesigned assessment and demonstrate how the materials have been customised to suit the two courses along with a rationale for the changes and feedback received from lecturers about the changes made. The results of this research will further inform the design of our curriculum and enhance the research orientation of the curriculum.

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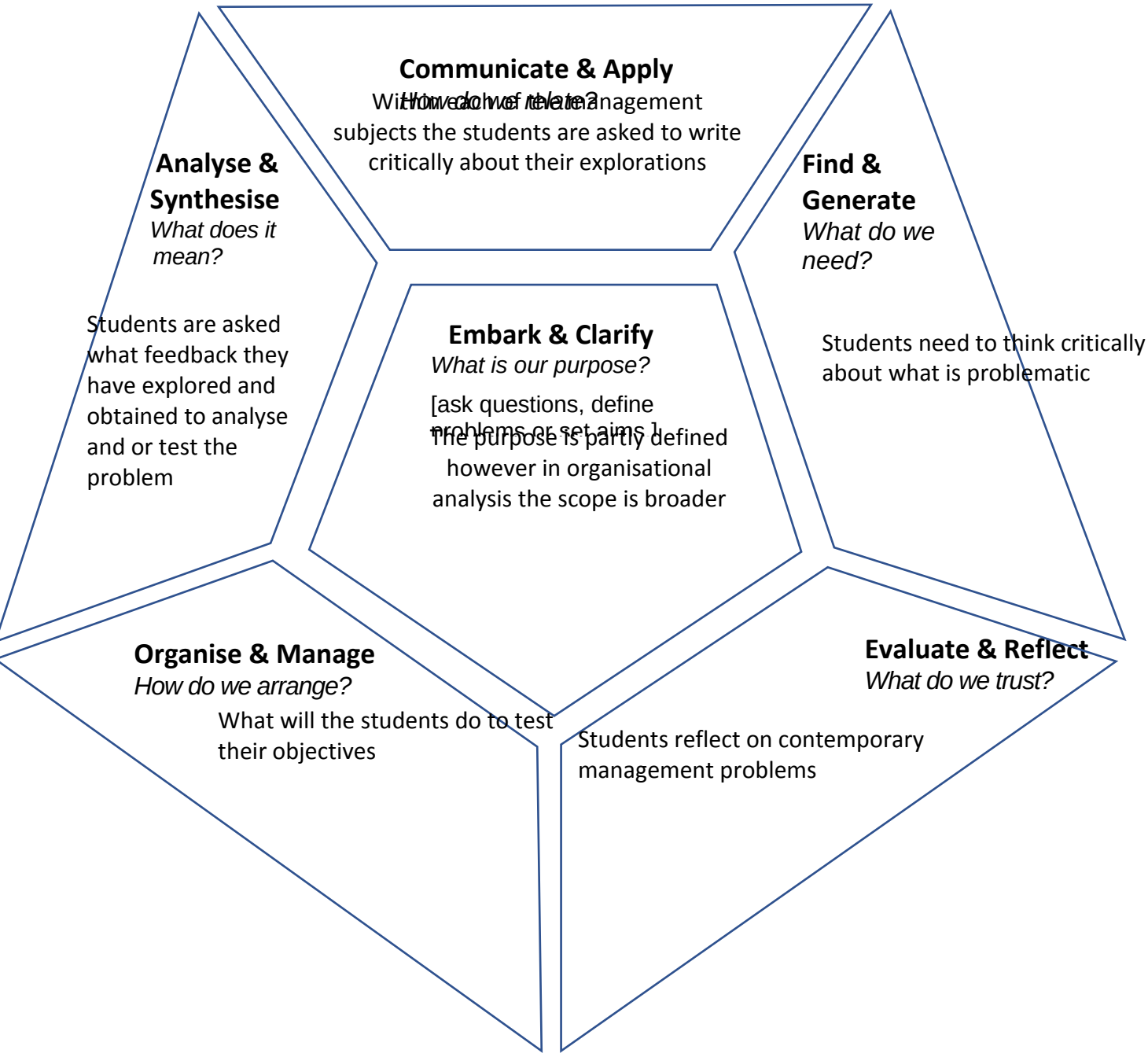
Appendix 1

RSD pentagon

'When in doubt, return to the centre' Outlining the facets included in the Learning Outcomes and the rubrics for assessing students' development of critical thinking abilities.



The Research Skill Development (RSD) pentagon is based on the six facets of the RSD as modified for Optimising Problem Solving (OPS) pentagon designed by Mechanical Engineering Communications Tutors, University of Adelaide, 2014. See www.rsd.edu.au for full version of RSD and http://www.adelaide.edu.au/rsd/framework/frameworks/ for OPS. john.willison@adelaide.edu.au
The RSD Pentagon may be used as a Thinking Routine (R. Ritchhart & D. Perkins, 2008).