Bumpy Moments and Joyful Breakthroughs: The place of threshold concepts in academic staff development programs about online learning and teaching

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In higher education institutions academic teaching staff face both bumpy moments and joyful breakthroughs on their journey to become skilful teachers in online learning environments. This paper draws from published literature on online teaching as well as the experiences of an institution's faculty leaders and teaching staff. Data were gathered during the study from systematic observations recorded by faculty leaders and questionnaire results from teaching staff. From an analysis of the data, a set of recommendations emerged to inform the design of a multi-strategy academic staff learning program, which facilitated the development of online teaching skills.

Introduction

Online learning is one of the fastest growing trends in educational uses of technology (Means, Toyama, Murphy, Bakia & Jones, 2010). Particularly in university education, lecturers are regularly asked to teach online classes. When university academics venture into the realm of learning about online learning and teaching, they encounter a number of key concepts along their journey. As most teaching academics have worked within a culture of on-campus teaching, with perhaps some experience of distance education, many of these academics have not yet developed the skills of how to teach in an online environment. Some concepts associated with learning about online education are categorised as threshold concepts and are quite practical in nature whereas other concepts are more theoretical or even personal. The more practical threshold concepts are often addressed and explored in staff development workshops, during involvement in mentoring programs and in practical "how to" support sessions. However, when staff begin to explore what it means to be a teacher in an online environment from a personal and theoretical perspective, they encounter threshold concepts that can unsettle their most deeply held personal and pedagogical beliefs about what it means to teach and learn, and what it means to be an effective teacher and learner.

Background

The development of online teaching abilities for faculty teaching staff involves learning how to facilitate online learning and understanding how online learning occurs. Varied professional learning programs enabling faculty teaching staff to develop such skills and understandings have been trialled and tested over the years. Ideally, professional learning programmes should foster the implementation of innovative teaching practices that suit online learning environments; they should not be dominated by "a technology centred repertoire" (Hannon, 2008: 27), but be driven by clear pedagogical intentions

(Northcote & Huon, 2009a). The process of gaining both pedagogical and technological knowledge of online teaching can be a bumpy journey (Romano, 2006) during which staff experience many instances of cognitive dissonance (Festinger, 1956) and encounter a range of threshold concepts (Meyer & Land, 2003) about online learning and teaching. Along these lines, in a comprehensive review of online education teaching literature, Talent-Runnels and her colleagues (Tallent-Runnels, Thomas, Lan, Cooper, Ahern, Shaw & Liu, 2006) reviewed 76 articles from five electronic databases relevant to online instruction. The authors found "… no comprehensive theory or model that informed studies of online instruction" (2006: 115).

Although such concepts may indeed be *troublesome* (Perkins, 2006), both at an institutional and at a personal level, they are thought to be *integrative* and transformative. Some of these concepts are based on understandings of:

1. *The distinctive nature of the online learning environment*: understanding that the online environment does not need to replicate the on-campus student experience;
2. *Student attention*: acknowledging that online students need just as much attention as on-campus students;
3. *The nature of online communication*: including synchronous and asynchronous forms;
4. *Relationships*: developing learning materials that foster the development of relationships between students and their lecturers, and between students and others outside the institution;
5. *Identity*: what it means to be an online teacher and a facilitator of online learning; 6) *high quality learning*: learning as a process that involves interactive activities and knowledge construction, not just the absorption of information;
7. *Humanisation*: determining how to integrate interactive processes into the online environment in ways that humanise the learning context;
8. *Sense of place*: the deliberate inclusion of learning and teaching techniques and resources that enable students and teachers to develop a sense of place in the online environment;
9. *Technological concerns*: including skill development of staff and students, access, use of tools and trouble shooting.

The introduction of online teaching technology can be a disruptive force for lecturers who have strong backgrounds in face-to-face teaching but little experience in online teaching. However, this disruption can also lead to innovation and a revision of existing practices and attitudes (Meyer, 2010). Faculty teaching staff at Avondale College of Higher Education have been given five-star ratings in the *Good Universities Guide for The Educational Experience: Teaching Quality* for their on-campus teaching in recent years (2007, 2008, 2010). Administration and faculty leaders of the College, as well as the faculty teaching staff, are keen to extend this high quality of teaching and learning into the realm of e-learning. Based on the data gathered during the study described in this paper, the launch into online learning and teaching was planned with strong support at the institutional level as well as within each faculty of the College. One-to-one support and mentoring was also provided (Birch & Bennett, 2009). Discussions about

developing online units of study were focused around authentic experiences in which practical exemplars were provided and analysed (Bell & Gayle, 2009).

By drawing on the views of staff about teaching in e-learning environments, this study has extended the current literature about staff perceptions of online learning (Palmer & Holt, 2009) and has provided a purpose for using these views to construct a tailor-made staff development programme.

Methodology

The methodology chosen for the study sought to examine nine key issues through systematic reflective journals completed each month by the four participating researchers at Avondale College of Higher Education. Two of the participating researchers were faculty leaders, the Deans of the Faculties of Education and Arts respectively. The Faculty of Education was dramatically expanding its online delivery in both scope and sophistication. The Faculty included a mix of faculty teaching staff, a few of which had medium level skills in online delivery to a good number who had, at best, negligible experience. The Faculty of Arts covered a range of disciplines, including traditional humanities, communication, music and visual arts, and the bulk of the faculty teaching staff had no experience of online learning or teaching. Hence the lecturers involved in developing online teaching skills were overwhelmingly career academics accustomed to traditional lecturing methods and had varying degrees of comfort levels with new technologies. Some staff expressed scepticism about the value and practicality of online learning, especially in certain discipline areas where teacher presence was considered to be indispensible. Another research participant was the course co-ordinator for the Bachelor of Arts, and an advocate for online learning. The remaining research participant had extensive experience in various forms of distance and online learning, with formal research qualifications in the area, and considerable experience in mentoring and training of academic teaching staff. Her work straddled both faculties. Each researcher thus had a leadership role in the development and implementation of online learning, with responsibility over faculty teaching staff in some capacity or another.

The reflective journals of the four participating researchers were based on two standard prompter questions. The journal also asked the researchers for responses to nine key issues. The first question was: From my point of view, what are the major concerns or areas of "troublesome knowledge" that staff talk to me about or that I observe? The second question was: What typical questions do staff ask me or others about online learning? Lastly the journal included a section which led with this question: Do staff ask about or comment on the following concepts? This was followed by a list of the nine troublesome threshold concepts listed above in the Background section of this paper, from "the distinctive nature of the online learning environment" to "technological concerns". The journal was completed three times over the course of the study, covering February-March, March-April, and April-May, encompassing the first semester of online experience for most of the participating teachers, and capturing their very first online teaching experiences through to experiences later in the semester.

The nature of this data gathering instrument focused on the problematic issues that staff encountered along their journey in developing their online teaching and course development skills. Consequently, the data gathered through this process focused largely on troublesome knowledge, negative issues, areas of concern and disruption.

The purpose of this reflective journal instrument was to gather data as it was observed by the participating researchers in the Faculty of Arts and the Faculty of Education. These observations and reflections provided rich data about the general concerns and breakthroughs reported by faculty teaching staff in the form of corridor conversations, workshop preferences and attendances, requests for assistance, and general feedback about the processes associated with online learning and teaching. Findings from an analysis of the data gathered from the reflective journals and recorded by the project researchers formed the basis of the second stage of data collection.

The analysis of the data in the reflective journals adopted a grounded theory methodology. The data gathered from the reflective journals were collated, coded and analysed according to the following procedures:

1. Comments recorded by the researchers in the reflective journal template were collated;
2. Constant comparison of raw data from the researchers' reflective journals was carried out to establish categories of focus;
3. Comparison of emerging data trends from researchers' reflective journals with other emerging theory from literature on professional development of online teachers and threshold concepts;
4. A set of findings was generated, emerging from the data trends, and these findings were then organised into core categories.

Following on from the findings of Step One above, a questionnaire developed by Kevin Gosselin (2009) was adapted and administered to gather data from faculty teaching staff about what they considered to be threshold concepts in the area of online teaching and how confident they felt about online teaching. This questionnaire, the *Online Teaching Self-Efficacy Inventory* (Gosselin, 2009), was conducted late in the data collection phase, at the time of the final round of reflective journaling in May, and provided a means of measuring the degree of change in attitudes after some instruction and application of online learning strategies, against the data provided by the reflective journals. By its nature, the questionnaire focused on gathering data about areas of online teaching where the teaching staff perceived their skills to be developing.

In comparison to the reflective journal instruments, this questionnaire provided the researchers with data that was typically more positive in nature, indicating areas where teaching staff were both comfortable in their online teaching skills. By using both data gathering instruments, the researchers were able to provide the teaching staff with multiple opportunities to report on areas where they felt both competent and incompetent to teach online.

Data analysis

The data gathered from the reflective journals of the faculty leaders and data gathered from questionnaires completed by faculty teaching staff were analysed in order to inform and determine the direction required for future professional learning strategies for faculty teaching staff.

Reflective journals

The data gathered from the reflective journals in the form of observational and reflective comments were coded independently by two of the project's researchers to

establish emerging categories of focus. By adopting this grounded theory methodology (Strauss, 1987; Strauss & Corbin, 1998), a number of focus categories were established through a process of constant comparison of the raw data. The data were also compared with the current literature about professional development of online teaching staff, with a particular emphasis on threshold concepts (Meyer & Land, 2003), troublesome knowledge (Perkins, 2006) and cognitive dissonance (Festinger, 1956). Once this constant comparison process was completed, the two researchers who conducted the coding compared and collated their coding results. From this procedure a set of themes emerged, which represented the concerns of the faculty teaching staff about online teaching and learning, and the process of developing online teaching skills. Because the reflective journal instrument focused on troublesome and disruptive issues, there was an expectation that findings from the data would reveal some areas of concern about online teaching.

These themes indicated that the faculty teaching staff were concerned about six main areas: 1) pedagogical; 2) technical; 3) resources; 4) time; 5) strategic issues; and 6) fear. As illustrated in Figure 1 below, the majority of their concerns were related to pedagogical and technical issues.

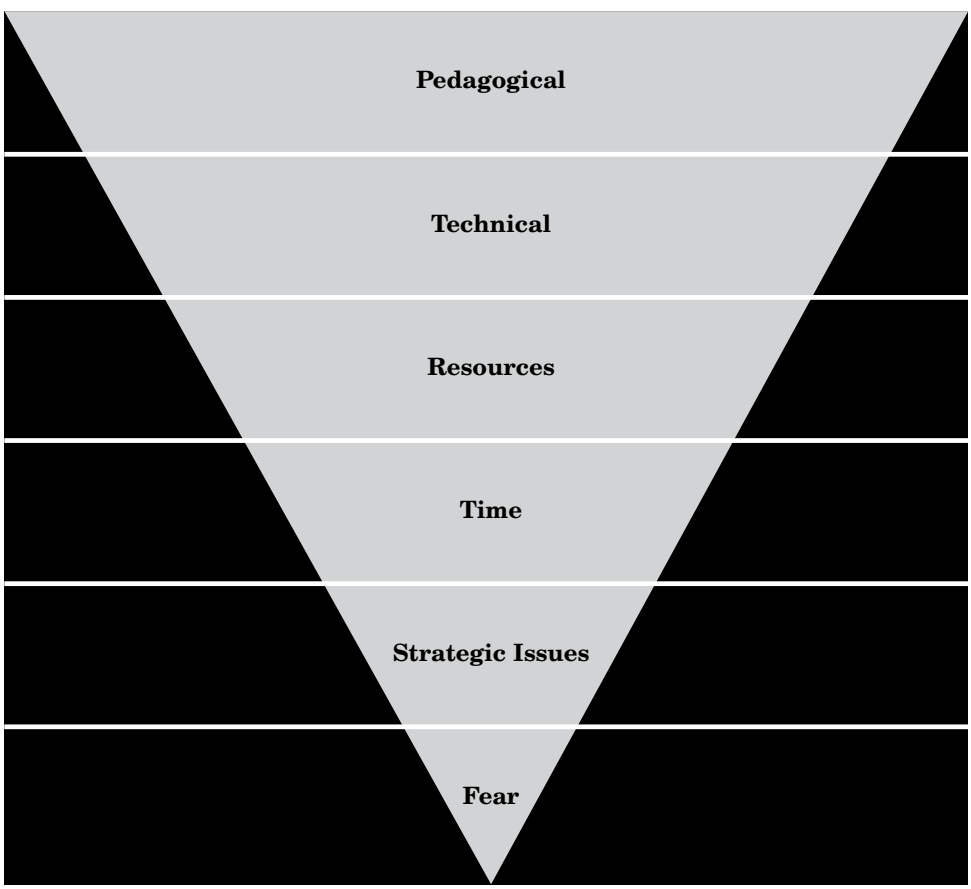


Figure 1. Six themes that emerged from an analysis of reflective journal data

The comments and questions from the faculty teaching staff focused on a range of issues including: teaching style and the nature of their online teaching role; the quality of learning and understanding the process of online learning; engagement of students; creating an appropriate learning atmosphere; setting expectations; and facilitating meaningful interaction. Following are some typical pedagogical concerns expressed by the faculty teaching staff: "How do I transfer the richness of face-to-face?", and "When do I make my presence felt in the online environment and when do I remain present but not visible?". The faculty teaching staff also had many concerns about technical issues, such as enrolment, assessment, course building, student skills, software and server capacity. Their comments and questions about technical issues were characterised by references to getting technical advice about uploading and downloading large video files, file and server security, passwords, compressing files, archiving files and adding sound.

While the faculty teaching staff were particularly concerned about pedagogical and technical issues, the findings from an analysis of the reflective journals of the faculty leaders also revealed that teaching staff were apprehensive about accessing and creating resources, the time and workload involved in learning new skills and creating new courses and how online teaching was being managed in the institution at a strategic level. Lastly, they expressed fear in some cases, describing some aspects of online teaching as possibly being "dangerous without supervision" and "daunting".

During the process of keeping reflective journals, the faculty leaders involved in the study concentrated on documenting the problems mentioned by the faculty teaching staff. Consequently, the findings from an analysis of this data revealed many of the concerns and worries held by the participants about online learning and teaching. As such, these findings may appear negative in nature. In contrast, the data gathered from administering the *Online Teaching Self-Efficacy Inventory* (Gosselin, 2009) were more focused on the areas where the teaching staff were confident about their online teaching. As such, the findings from an analysis of the questionnaire results indicated areas about which the faculty teaching staff felt more positive. Together, the data gathered from the reflective journals and the questionnaires provide a broad range of views about online teaching held by the faculty teaching staff. These views reflect the areas of concern expressed by the teaching staff in both faculties, as well as areas of online teaching where the staff felt they were quite competent. Below is a presentation of an analysis of the data gathered from the *Online Teaching Self-Efficacy Inventory*.

Questionnaire

To provide an overview of the faculty teaching staff participating in this research, descriptive statistics were collected. The demographic questions that were included examined: 1) gender; 2) ethnicity; 3) type of teaching position; 4) institutional type; 5) number of years teaching in higher education; 6) number of years teaching in the current position; 7) number of semesters teaching online; 8) number of courses taught online; 9) number of online courses designed; and 10) number of courses adapted from face-to-face to online formats.

A total of 21 faculty teaching staff participated in the study. The majority of participants were female (57.1%), Australian (66.7%), and predominantly employed full-time (80.9%) in a private tertiary college (90.4%). Table 1 provides frequencies of the gender, ethnicity and employment data of the participants included in the study.

Variable	Frequency	Percent
Gender		
Female	12	57.14
Male	9	42.86
Ethnicity		
Australian	14	66.67
European	5	23.81
Asian	1	4.76
Other	1	4.76
Pacific Islander	0	0
Aboriginal or Torres Strait Islander	0	0
Employment Status		
Full-Time	17	80.95
Part-Time	3	14.29
Sessional or Casual	1	4.76
Contracted	0	0
Ongoing	0	0
Other	0	0
Institution Type		
Private Tertiary College	19	90.48
Public Tertiary College	1	4.76
Public University	1	4.76
Private University	0	0
Other	0	0

Table 1. *Summary of gender, ethnicity, and employment data (n=21)*

The faculty teaching staff were asked to self-report their total number of years teaching in higher education, number of years teaching in their current position, number of semesters they had taught online, number of units taught online, number of online units they had designed, and number of units adapted from face-to-face to online formats. The faculty teaching staff reported having taught an average of 12.5 years within higher education (SD = 9.27). In regard to their current instructional positions, participants had taught 8.55 years on average with a standard deviation of 7.26. The mean for number of semesters taught online was 3.05 with a standard deviation of 3.54. The faculty reported teaching an average of 2.12 units (SD = 1.83). The mean number of online units designed by participants was 2.01 with a standard deviation of 1.89. Finally, the mean for number of units adapted from face-to-face to online formats was 1.96 with a standard deviation of 1.82. The means and standard deviations for this information are provided in Table 2.

	M	SD
Years teaching in higher education	12.50	9.27
Years teaching in current position	8.55	7.26
Semesters teaching online	3.05	3.54
Online units taught	2.12	1.83
Online units designed	2.01	1.89
Units adapted from face-to-face to online formats	1.96	1.82

Table 2. Summary of participants' teaching, design, and transfer information

The *Online Teaching Self-Efficacy Inventory (OTSEI)* (Gosselin, 2009) was administered to all faculty teaching staff participating in this research. The OTSEI consists of five individual scales to assess specific aspects of the self-efficacy beliefs of post-secondary faculty. The five scales include: 1) Selection of Technological Resources; 2) Virtual Interaction; 3) Unit Content Migration; 4) Online Course Alignment; and 5) Web-Based Unit Structure.

Each of the OTSEI scales conceptualises specific facets of online instruction. All of the scales employ a 0-10 response rating for each scale item with 0 indicating "no confidence" and 10 indicating "complete confidence" in one's ability to carry out the task. The Selection of Technological Resources Scale consists of eight items to examine online teachers' self-efficacy in their ability to select, utilise and determine the appropriateness of technology to enhance student learning and enrich instruction. The Virtual Interaction Scale is composed of 10 items and assesses the self-efficacy beliefs of faculty to facilitate effectively the teacher-student interaction, meaningful student cooperation and the ability to establish a positive social climate that engages students through fostering motivation, intellectual commitment and personal development. The seven-item Unit Content Migration Scale measures self-efficacy beliefs in the ability to effectively transfer their developed instructional materials from face-to-face to online units. The Online Course Alignment Scale, consisting of 11 items, encompasses faculty's self-efficacy beliefs in their ability to effectively align learning objectives, course assignments, assessment strategies, and learning activities within online courses. The final OTSEI scale, Web Based Unit Structure, consists of 11 items to determine self-efficacy beliefs that comprise the ability to construct and design online units that include clear organisational structure, facilitates straightforward navigation and communication guidelines, is consistent and aligned with an institution's mission, and complies with the Australian Human Rights Commission guidelines.

The researchers summed the responses across each of the OTSEI scales. The corresponding ranges were 0-80 for Selection of Technological Resources, 0-100 for Virtual Interaction, 0-70 for Unit Content Migration, 0-110 for both Online Course

Alignment; and Web-Based Unit Structure. For ease of interpretation and comparison, each of the scale means and standard deviations were transformed into 0-100 point scales with higher scores representing greater self-efficacy.

Relative to each of the OTSEI scales, the faculty participants rated themselves as most efficacious on Virtual Interaction (M = 64.48, SD = 24.99), Online Course Alignment (M = 60.26, SD = 21.65), and Web Based Unit Structure (M = 55.36, SD = 16.79). Unit Content Migration and Selection of Technological Resources Scale scores indicated that faculty participants were the least efficacious in these areas (M = 47.27, SD = 17.10 and M = 42.78, SD = 21.39 respectively). The means and standard deviations of the faculty teaching staff for the OTSEI scales are presented in Table 3.

Scale	M	SD
Selection of Technological Resources	42.78	21.39
Virtual Interaction	64.48	24.99
Unit Content Migration	47.27	17.10
Online Course Alignment	60.26	21.65
Web Based Unit Structure	55.36	16.79

Table 3. Means and standard deviations for the OTSEI Scales (n=21)

Findings

The findings of the research are discussed under three sections: the reflective journals; the *Online Teaching Self-Efficacy Inventory (OTSEI)*; and the comparisons with the literature.

Reflective journals

The reflective journals indicated that the faculty teaching staff had a clear hierarchy of perceived needs. The first of these needs related to the pedagogical foundations of what they were attempting to do with online learning. Above all, the teaching staff needed a clear pedagogical justification for the change to online learning, and then a clear pedagogical methodology to implement it. After this was established, the next level of concern was with technology, both their capacity to manipulate it in useful ways, and the need for technology to support their pedagogical aims. This tussle between pedagogical and technological forces has also been reflected in discussions about online teaching and learning over the last couple of decades (Hannon, 2008; Mishra & Koehler, 2006).

The varied concerns expressed by staff (see Figure 1) about online teaching and learning were interconnected; issues of high importance were closely linked to those rated at a lower level of importance. Accessing and creating appropriate resources, and having the necessary time to develop, implement and then conduct the online learning experiences had strong overlap, and related to concerns over effective pedagogy and the interaction of the technology and student learning. The strategic issues referred to the long-term place of online learning in the overall program, again touching on effective pedagogy. Fear of the unknown was present, but its relatively low level indicated a willingness to engage

in what was, for many, a risky enterprise. Identifying the key threshold hurdles allowed for a much better targeted program of staff education and support, addressing perceived needs at a much earlier point in the process than otherwise might have happened.

Online Teaching Self-Efficacy Inventory (OTSEI)

The OTSEI findings revealed two contrasting conclusions. Firstly, the online teachers self-reported a relatively high level of self-efficacy (mean of 64.48) in the Virtual Interaction scale, which measured the ability to effectively facilitate teacher-student and student-student interaction, and to create a social climate that provides a sustaining learning environment for students. This contrasted strongly with the reflective journals, where the researchers documented the major concerns of online teachers. Because the OTSEI was conducted relatively late in the research frame, these results indicate that, through a combination of targeted instruction and support as well as personal practical experience, the attitudes of the online teachers had undergone a significant shift from concern to confidence in their ability to deliver effective pedagogy online. However, the Virtual Interaction scale also had the greatest standard deviation (24.99), showing that confidence at the individual level varied the most. Similarly, the Online Course Alignment scale registered a mean of 60.26, showing high levels of confidence in their ability to align learning objectives, course assignments, assessment strategies, and learning activities with online learning. Again, it had a relatively high standard deviation (21.65), indicating that levels of confidence were uneven across the group. However, the difference between the OTSEI scores and the data from the journals in these two areas indicates a significant shift, and reflects the learning which occurred for many online teachers through targeted instruction as well as the actual experience of online teaching. The combination of training and personal experience turned self-perception around by equipping the faculty teaching staff with the necessary skills and knowledge, and developing confidence in their ability to make online learning effective.

On the other hand, the OTSEI results showed that concerns over technological issues from the reflective journals correlated well with the survey. Where the category Selection of Technological Resources returned the lowest mean (42.78), a high standard deviation (21.39) indicates that this result is unevenly distributed among participants. Similarly, the Unit Content Migration scale matched well with the reflective journals' finding that content and resource issues were a concern to lecturers, with a mean of 47.27 and a lower standard deviation of 17.10. Even after initial instruction and practical experience, online teachers felt that their capacity to handle technology in an educational context was limited. This also showed up in teachers' expressed confidence in effectively transferring face-to-face teaching materials to online modes.

Comparisons with the literature

Hannon (2008) and Northcote and Huon (2009a) speak of the need for online education to be driven by pedagogical rather than technological imperatives. This research shows that teachers understand this need and fear a technology-driven process. However, by addressing the pedagogical issues and demonstrating that a sound pedagogy is compatible with an online mode, teachers can develop enthusiasm for the mode and confidence in their own ability to teach well. This study shows that for many teachers, the ride to online teaching is indeed bumpy, but it also demonstrates that there are also joyful breakthroughs, when good pedagogy triumphs over the anonymity of technology, and where cognitive dissonance precedes breakthroughs.

The study identifies troublesome issues, but also shows how these can become integrative and transformative, in line with Perkins' (2006) and Meyer's (2010) research. Also in line with these authors' recommendations, findings from this study noted how the introduction of online teaching tools can indeed enable a more student-centred view of learning in which learning can be customised and learners can contribute more readily. Rather than being crushed by the technology, as some staff feared, online teaching practices can in fact maintain and promote a very sound pedagogical direction. By following the principles identified by Birch and Bennett (2009), Bell and Gayle (2009) and Palmer and Holt (2009), the teachers in this study have been able to transform their own attitudes and skills in online learning, supported by structured organisational support at every level, training based on authentic learning, and strong individual support for each teacher in implementing their own online teaching. The findings of this study emphasise the value of incorporating both institutional as well as personalised aspects of teaching and professional learning. Just as Meyer and Land (2003) suggest, the cultural capital and the emotional capital must both be acknowledged for high quality staff learning to occur.

The study highlights not only areas of teacher concern with online teaching, but also demonstrates aspects in which training, support and personal experience can improve the competence and confidence of online teachers. A follow-up study addressing the continuing areas of concern would help determine to what extent it is possible to address all areas of threshold learning for teachers in online modes, and the degree of improvement in self-efficacy that could be achieved with more time and experience.

Recommendations

A set of four main recommendations emerged from the data gathered during the study after analysis and comparison with the current literature about developing online teaching skills for university academic staff (Northcote & Huon, 2009a, 2009b).

Recommendation 1: Place pedagogy above technology

The faculty teaching staff who participated in this study were clearly driven by the need to put pedagogy before technology with some staff even expressing a fear of technology takeover. Consequently, all of the practical strategies in the professional learning program that was designed as a result of this study incorporated pedagogical references and resources. Reasons for using specific technology were interspersed throughout all workshops, professional learning documents, instructions and discussions. Opportunities were provided to discuss perceptions about how technology could both reduce and enhance the quality teaching and these conversations were characterised by references to good practice and opportunities to explore exemplars. Open debate about the affordances and pitfalls of online learning was encouraged, in conjunction with recently published research about e-learning.

Recommendation 2: Cater for diverse levels of development

Since findings from the data analysis revealed a wide variation in the confident levels of individual staff to use technology in general, the professional learning programme that was developed as a result of this study incorporated regular individual and group sessions in which staff could receive assistance to develop their technical skills and, subsequently, their technical confidence. These sessions took place in the context of a strong pedagogical framework; pedagogical principles drove the technical instruction in such cases. The professional learning strategies were characterised by a tone of encouragement which did not single out any teacher who had yet to develop online

teaching proficiency. To ensure inclusion of new and returning staff, the professional learning program also needed to be flexible in nature to enable staff to join in along the way, at various times during the semester, irrespective of their previous knowledge of online teaching.

Recommendation 3: Allow teachers to take the lead

The study showed that many of the faculty teaching staff valued opportunities to drive and manage their own development of skills and understandings about online teaching and learning. In order to accommodate their requests to be able to take the lead in their own learning process, the professional learning program included a number of choices for staff including venue, time, length, focus and format. Staff who felt less confident than others were provided with chances to meet up in small groups or to have one-to-one consultations. There was encouragement for staff with more advanced technical and online teaching skills to share ideas and problem solve with other staff, to explore sets of exemplars and to operate independently by using instruction sheets and booklets. Printed materials were provided to supplement online materials.

Recommendation 4: Recognise emotional issues

The findings from this study demonstrated the integral nature of the emotional responses of teaching staff to their own development of online teaching skills. As well as honouring the skills and knowledge that staff already possessed about teaching in general and the online environment specifically, the professional learning program for academic staff needed to cater for the emotional element of the paradigm shift experienced by teachers moving from a face-to-face to an online mode of teaching, especially in relation to issues such as role and identity of teachers. A professional development program that was essentially holistic in nature also aligned with the institution's approach to teaching and learning, which focused on "the development of the whole person" (Avondale College of Higher Education, 2008: 2). The emotional experiences of teaching staff were acknowledged throughout the following nine strategies that made up the professional learning programme.

Professional learning program incorporating nine strategies

The four recommendations outlined above directly informed the development of nine practical professional learning strategies designed to further develop the online teaching skills of academic staff in two Faculties at the College. Rather than being either purely top-down or bottom-up in nature, these multiple strategies could be described most effectively as being "middle-out"; they enabled staff to see examples in action and their skills were applied to their teaching in immediately applicable ways. Staff were also encouraged to reflect on, monitor and drive their own professional learning about online teaching. This professional learning programme was designed to incorporate multiple informal and formal strategies including:

1. Workshops that focused on both pedagogical knowledge and technical skills;
2. One-to-one consultations that were encouraging in nature, acknowledged the difficulties involved and provided a safe and private space in which to discuss fears and other anxieties about online teaching;
3. Use of examples (to demonstrate best practice) and non-examples (to demonstrate mistakes or "what not to do" examples) of previously or purposely constructed online courses, resources and activities;

4. Informal corridor conversations that provided academics with "just in time" advice and guidance;
5. Strong support from Faculty Deans and institution's leaders in the form of allocated timeslots for workshops, reward of skill development in performance appraisal sessions and the scheduling of regular items in Faculty and School meetings;
6. Encouragement and sharing of research into online learning and teaching;
7. Identifying a set of units for development;
8. Provision of instructional resources via the online learning management system (that is, Moodle) and paper-based (booklets and handouts); and
9. A set of nine pedagogical guidelines for developing online courses at Avondale College of Higher Education, based on expert advice from various higher education educators (Anderson & Krathwohl, 2001; Biggs, 2003; Herrington, Oliver, & Herrington, 2007; Herrington, Oliver, Herrington & Sparrow, 2000; Herrington, Oliver & Reeves, 2003; Kerns et al., 2005; Salmon, 2004; Van Duzer, 2002).

The short-term and long-term future

In 2011, one additional strategy has been added to the above set of nine strategies which were implemented in 2010: short weekly emails are now forwarded to all teaching staff providing regular, timely and contextually relevant tips about online teaching such as how to construct an introductory message to students in Week One of the semester.

As the professional learning strategies outlined above continue to be implemented fully and evaluated during 2011, it is anticipated that some modifications will be required. In this way, the programme's evolution will continue to be evidence-based as was the programme's formation. In future, it will be supplemented by the design and development of an instructional unit for staff about online learning and teaching using the current Learning Management System (that is, Moodle). Plans are also underway to create a grid of self-identifiable online teaching skills that staff either possess or plan to develop, and an educative rubric, which is based on descriptions and examples of baseline, intermediate and advanced online units of study.

Conclusion

This study has highlighted the emergence and importance of online learning in tertiary educational settings; and the impact on staff when they are asked to transition their teaching into the online space. Staff involvement is pivotal to the success of online learning initiatives and faculty teaching staff have a clear hierarchy of perceived needs. In this study staff needed a clear pedagogical justification for the change to online learning, and then a clear pedagogical methodology for its implementation. Staff also needed assistance to work with technology and to use it as a tool to facilitate student learning.

What is very encouraging is the way that staff responded to a targeted professional learning program of training and support. Significant change in staff attitudes and confidence was achieved through a combination of targeted instruction and support as well as personal practical experience. While it is true that confidence levels varied across the staff group, the amount of variation was reduced as staff from different technological and pedagogical backgrounds implemented online units and progressed at their own individual rate, while making self-directed decisions about their own

professional learning patterns. This variation is in many ways a product of the age group that currently dominates university teaching faculties. Most of the lecturers are digital immigrants (Prensky, 2001) and although they work at integrating into their new digital world, some still have pronounced accents. To see these accents disappear completely may take generational change and we need to ensure that we do not also lose the "cultural colour" that comes with this diversity.

Overall transitioning to new pedagogies is an exciting process. As with any adventure, people who embark on the journey can be apprehensive; however, with sound guides and a carefully planned route, many experience the success of discovery and delight in the breakthrough moments that help deliver quality student learning experienced in the online environment.

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Thresholds and Transformations

Thresholds and Transformations: An introduction

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The *3rd Biennial Threshold Concepts Symposium: Exploring Transformative Dimensions of Threshold Concepts*, held at the University of New South Wales in collaboration with the University of Sydney, July 2010, focused on scholarly explorations of *thresholds and transformations*. Meyer and Land first coined the expression *threshold concepts* in 2003 by explaining their transformative capacity, "they can be considered as akin to a portal, opening up a new and previously inaccessible way of thinking about something … representing a transformed way of understanding, or interpreting, or viewing something without which the learner cannot progress". They suggested that transformation went beyond perception and learning and extended to the affective domain around personal identity and perspective, and that the "potential effect on student learning and behaviour is to occasion a significant shift in the perception of a subject, or part thereof" (Meyer & Land, 2003a: 412-424).

The Symposium reflected the breadth of extensive research that has been conducted across multiple contexts and disciplines on this concept. The presentations engaged with ideas that extended the notions of *thresholds* and *transformations* to other dimensions beyond learning. Areas of investigation included the transformative ways of viewing knowledge through different disciplines, how curricula can be (re)shaped, and how academic dimensions may be understood and practised as transformative acts of learning and teaching. These ideas were presented through presentations, panel discussions, round table discussions and workshops, within each of the following themes or dimensions:

> *Epistemological dimensions*: Transforming knowledge and learning; thinking, learning, understanding, perceptions, frameworks from personal (academics, students, academic developers, professional staff) and communities of practice perspective.
>
> *Ontological dimensions*: Transforming world views, identities, feelings, values, perspectives from personal (academics, students, academic developers, professional staff) and community in disciplinary, interdisciplinary, transdisciplinary contexts.
>
> *Practice dimensions:* Transforming practice in teaching, learning, curricula, assessment through personal (academics, students, academic developers, professional staff) and community situations, such as in Schools, Faculties, and within Academic Development Units.

Reflexive dimensions: Transforming the very notion of threshold concepts themselves, through critiquing, problematising, evaluating, creating, and moving the notion of, and the research on, thresholds forward.

Taking this Symposium as a starting point this issue of ACCESS is devoted to the conceptual theme of *thresholds and transformations* as these concepts arose through the focus of the conference, and also as they have been considered by scholars who did not make presentations at the conference but who wished to contribute to the dialogue. Through Meyer and Land thresholds concepts are seen to be transformative for learners and are conceptualised variously as troublesome (Perkins, 1999), irreversible, integrative, discursive, bounded, reconstitutive and liminal, as a way of finding new and previously inaccessible ways of coming to know something (Meyer & Land, 2003a, 2003b).

There is much in this rhetoric that comes from a deconstructive way of approaching learning, curriculum, pedagogy and research. Michel Foucault used the concepts of *thresholds* in his considerations of the emergence of discursive formations in different discourses of knowledge. As discussed by Mark Olssen (2006: 27) Foucault's theoretical project is constituted by levels of the emergence of different thresholds, which he names as, a *threshold of positivity* (1972: 186); a *threshold of epistemologization* (186-187); a *threshold of scientificity* (187); a *threshold of formalization* (187). Thus the concept of *thresholds,* per se, is not new to contemporary theoretical discourses in education and the human sciences. Olssen (2006: 27-28) points out that Foucault recognised "that discursive practices have their own levels, thresholds, ruptures … he avoids chronological description or the imputation of a singular linear process of emergence in which all the complexities are 'reduced to the monotonous act of an endlessly repeated foundation' (1972: 188)". Following this approach this issue of ACCESS is not attempting to pull diverse discursive practices that make up the conceptual formations of *thresholds and transformations* into one cohesive whole, nor is it attempting to find coherence across different disciplines. It is more interested in offering historically contingent practices in a range of fields where some of the writers have found the reference to Meyer and Land to be helpful as an explanatory device of material and pedagogical practices.

Each of the writers in this collection has grappled with the theme of *thresholds and transformations* by setting out to explore the terrain suggested by Meyer and Land through fields of study as diverse as accounting, educational theory, art-based learning, design history, urban design, civil engineering, policy and planning, and spatial theory and practice. Each has applied the concepts to their area of educational practice and research through practical projects and theoretical analysis, and through these approaches they have succeeded in opening the educational landscape to new and diverse dimensions.

The collection begins with *Thresholds as Spaces of Potentiality: Negotiating the supervision relationship in a non-traditional art and design PhD candidature* by A.-Chr. (Tina) Engels-Schwarzpaul and Azadeh Emadi, Auckland University of Technology, New Zealand. Through a supervisor and candidate relationship these writers identify the tolerance of uncertainty as a crucial feature of a practice-led PhD project. They draw from their combined experiences of being born on foreign shores, one in Germany and the other in Iran, and both migrating to New Zealand. Their focus is on negotiated

territories, which they identify as threshold spaces of potentiality, when different world views bring with them different knowledge systems and expectations. Investigating this terrain they also acknowledge that power relations exist in fields of difference that make up academic environments and relationships with limitations and possibilities for opening spaces of change, dialogue and discovery.

The second paper, *Addressing a 'Preconceptual Threshold': A transformation in student preconceptions of introductory accounting* by Nicholas McGuigan, Macquarie University, Australia, and Sidney Weil, Lincoln University, New Zealand, considers the processes of learning in the discipline of Accounting at the introductory level. They start by acknowledging that the study of accounting can be challenging to new learners in the field and that many students arrive at their studies with negative preconceptions abounding. Many business degrees prescribe accounting as a compulsory subject taught through traditional methods to large classes. This in turn tends to reinforce negative attitudes; and then there are the stereotypes about accountants being divorced from ethical concerns of fiduciary relationships. The writers of this paper turn to Meyer and Land to find a way of overcoming the stereotypes and negative perceptions. Their project analyses phenomenographic data collected from six student cohorts over a three-year period to examine the experiences of student learners from the beginning to end of their introductory courses. They use the threshold concept paradigm to engage with students' reflective journals and essays, and to discuss and analyse their findings. They consider the role of accounting educators and the potential for curriculum redesign to assist students to deal with their perceived barriers and thus open the epistemological potential of accounting as a field of study.

In the next paper, *Picture This: Transforming artworks into exegetical texts to create new insights,* Lesley Duxbury of RMIT University, Australia, draws from her scholarly experience of undertaking a successful PhD by project as an artist-researcher. She explores the dichotomy between the creation of artworks as research and the production of an exegetical text as part of the whole PhD project, and the expectations that surround these two forms of knowledge generation in the academy. She contextualises what she terms the "logo-phobic" attitudes of many art-based researchers in that many are vexed by the task of explaining their work in writing. Acknowledging these difficulties, Duxbury proposes a way of reconciling the differences to ensure the production of insightful outcomes through both creative work and text. Through her approach she is impliedly engaging a similar approach to that of Meyer and Land in that the troublesome threshold between artwork and text can be perceived as a liminal space of "rupture between the thinking and making, and the writing and telling". She makes the important observation that "it is just this gulf of difference or slippage between two very different languages, in this case of art and text that makes the subject of translation so fascinating, and so bewildering". Here in this space of bewilderment lies the challenge for the creative artist as researcher, and there also lies a challenge for the academy in authorising alternative methodologies such as, in Lesley Duxbury's case, walking as an authentic way of researching. In this Duxbury aligns her phenomenological approach to the writings of Merleau-Ponty, focusing on the "ways we 'inhere' the world as embodied, perceiving subjects". As Duxbury states, "For words to be more than the manifestations of rational thinking the text might hover in the space between words on a page and the imagination of the reader, both during and following the reading then it can have validity in this context".

The next article, *Off the Grid: Infrastructure and transformational space* by Carl Douglas, Auckland University of Technology, New Zealand, approaches the transformative process of recognising thresholds through a conceptualisation of space in the production of human environments such as architecture, landscape and industrial design, urban planning and civil engineering. In these fields Douglas considers the pedagogical implications of threshold concepts as devised by Meyer and Land. Through examining the dimensions of networked space he moves beyond the dialectical concept of space as being bound by its thresholds of inside/outside, and asks how transformational networked space can shift understandings of complexity and interdisciplinarity in spatial systems and functions that underpin human environments. Addressing non-dialectical concepts he moves from open networks of effect to Heidegger's analysis of tools, considering implications for a world-view of human habitation and advocating for a critical position, which he terms "being off the grid". His theory is a way of seeking and understanding transformative positions in the education of designers, planners and policy-makers.

Adele Flood from University of New South Wales, Australia, draws on previous research undertaken in her PhD to investigate the notion of artistic identity in her article, *Sites of Memory: Positioning thresholds of artistic identity.* She takes as her main theme the concept of identity as a self-forming, informing and reforming process that transforms and assimilates through educational encounters. Conceptualising thresholds as processes that involve crossing from one state to another, Flood's concern here is for the way educators can too easily focus on external drivers of knowledge acquisition to the detriment of other important notions of learning and processes of self-formation. Using narrative methodology she reflects on her own education and the process of following the dictates of her pre-service educator to become an art teacher, and recounts a threshold moment when she experienced what it meant to see anew and experience the liminal crossing into new capacities and practices. Through narrative methodology Flood has been able to engage students in dialogues of learning. Her research presents accounts of learners who make explicit their threshold moments in the process of coming to terms with artistic identities and accepting that there is a profession that they are entering and in which they can find authenticity. Crucially she is seeking a way for learners to find a sustainable way of living and ultimately she leaves the reader with this question, "But what can we do to encourage them to become thinkers, who will question assumptions; who can engage in learning that they can apply in their every-day lives?" as she seeks an answer in the thresholds and transformations of learning encounters as processes of incorporation.

Maria Northcote, Daniel Reynaud, Peter Beamish, Tony Martin of Avondale College of Higher Education, Australia, and Kevin P. Gosselin from the University of Texas at Tyler, USA, have co-written, *Bumpy Moments and Joyful Breakthroughs: The place of threshold concepts in academic staff development programs about online learning and teaching.* In this article they address the situation in higher education of academic staff facing what they conceptualise as "bumpy moments and joyful breakthroughs" as they work through the process of becoming teachers in online learning environments. The article comes from a research project, which gathered and analysed data from systematic observations and questionnaires. They base their study on the known fact that while many academics have grounded experience in on-campus teaching and learning situations they do not necessarily have the skills required today for extending learning through on-line environments. They discover that when academics start teaching in on-line environments, or at least start facing the fact that there are requirements to do

so, and they begin to explore this environment both personally and theoretically, "they encounter threshold concepts that can unsettle their most deeply held personal and pedagogical beliefs about what it means to teach and learn, and what it means to be an effective teacher and learner". This paper gives an account of the research into these new conditions for educators and offers a set of recommendations "to inform the design of a multi-strategy academic staff learning program, which facilitated the development of online teaching skills".

Embedding Threshold Concepts into First Year Design History: Can we transform students understanding and way of seeing? is the final article in this issue of ACCESS. Arianne Rourke, who lectures as a design historian at the University of New South Wales, Australia, discusses the emergence of a new way of looking at design history through engagement with Meyer and Land's theories of threshold concepts. She seeks a transformative form of learning in design history by drawing from contemporary theorists, practitioners and design examples in the field to investigate the way learning occurs in design history and to proffer the proposition that students learning design history need to acquire and practice a particular set of skills before the concepts become understandable in the learning process. The proposition is based on previous research undertaken by the writer and her research team regarding levels of visual literacy needed to identify key characteristics of design style. The use of exemplars and semantic cues is recommended as a way of honing the skills of visual literacy. In this way Rourke argues for more than the acquisition of disciplinary knowledge. Her research finds that grasping essential threshold concepts of a discipline enables students' confidence to flourish, and empowers their creativity and confidence in the learning process.

These papers canvass the concepts of *thresholds and transformations* in such a way that the reader will see that the realm of learning is as much about perceiving and knowing in new ways that enable the mind to cross what might seem to be impenetrable barriers to learning, as it is about disciplinary knowledge. It is about witnessing the states of emergence of knowledge through the material practices of learning and allowing the indeterminate realms of knowledge to find an acceptable place in pedagogical encounters. The scholarly approaches of these writers offer transferrable accounts for educators in disciplines other than the ones from which they speak. The transferability of the approaches to learning that is available through Meyer and Land, much based on ideas articulated by Michel Foucault, and interpreted and analysed through these papers, brings new insights to pedagogical approaches in a range of disciplines.

Thanks are due to the writers for their quality contributions from diverse disciplinary practices. Thanks also to the generosity of international reviewers whose responses provided much food for thought and sound recommendations to the writers and editors. Since 1982 ACCESS has attracted high quality submissions on cultural and policy studies, philosophy of education, and communication and knowledge politics, and in 2011 it continues to publish critical perspectives on cultural and educational spheres of knowledge from a range of countries. The journal is going from strength to strength and receiving a noticeable increase in submissions from scholars in many locations and disciplinary fields. Through these decades the journal stands as a mapping device of the ways scholarly discourses form and reform. In 2012 there will be a special issue of ACCESS devoted to these past three decades as a way of celebrating the 30 years of its existence.

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