First Year Distance Transition Pedagogy: Synchronous online classrooms

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Abstract

The design and facilitation of distance online courses for first year students must consider both first year, and distance pedagogy. One technology with the promise to meet the needs of first year distance students is the synchronous online classroom. Teacher practice as they transition from face to face to distance environments is influenced by their private theories about technology and pedagogy. Any limitations posed by these private theories may limit in turn the technological, pedagogical and content knowledge of the teachers – TPACK. This paper reports on the case of a regional university as it transitions to online, distance learning in the first year context, with a particular focus on pedagogy in the online classroom. It contributes to the first year pedagogy literature by considering the influences of existing practice of university teachers in the transition to distance learning with a particular focus on synchronous web-based tutorials. It provides recommendations to other institutions in terms of transition strategies, the pedagogical and learning benefits that are enabled and professional development needs of teachers.

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Introduction

Students who enter higher education face transition challenges that are social, emotional, organisational and intellectual in nature (Adams, Banks, Davis, & Dickson, 2010). Despite the best intentions of universities, there is still substantial attrition of distance students (Adams et al.) and difficulties in operationalising the first year transition literature (Kift, 2009; Tinto, 2007, 2009). For learning to be designed to meet the needs of students, concepts of distance learning must be considered alongside those of first year pedagogy. The challenge posed for online, distance, first year pedagogy is significantly greater than that for face to face teaching. This is due to a variety of additional variables to consider, not the least of which is the skill and knowledge of teachers and course designers in online course design and pedagogy. Most institutions are engaged in the ongoing evolution of distance education, associated with the nature of rapid change, and the knowledge entailments and practical considerations of successful online course design and facilitation (Cleveland-Innes & Garrison, 2012). The additional factoring of first year transition design increases significantly the complexity of the task. Whilst a horizontally and vertically consistent approach to first year distance curriculum design is desirable (Kift, 2004; Krause, McEwen, & Blinco, 2009; Martin, 2011), the enactment of this approach in the online distance context may be difficult. Individual teachers have personal beliefs and private theories (Churchill, 2006) that may influence their response to change, and the transition to online teaching.

Review of literature

Many studies have examined online learning from the students’ perspective, but less attention has been paid to the experience of the teacher in online learning (Cleveland-Innes & Garrison, 2012). Assumptions have been made about teacher practice in designing and delivering online learning that may not be fully realised (Cleveland-Innes & Garrison).

Curriculum principles have been identified in the first year literature that should underpin considerations of design and facilitation in first year study in both on-campus and distance contexts. In the case of distance learning, relevant first year transition principles Kift (2009) include a) considerations of supported transition; b) a learning experience that is designed to be inclusive of diverse needs, backgrounds and experience in study; c) explicit and integrated design and sequencing of learning; d) engagement of learners through opportunities for active and collaborative learning; and e) scaffolded, explicit assessment with regular opportunities for formative feedback. These are dependent on the existing pedagogy and beliefs of teachers about teaching and learning, particularly in the online environment. It is also dependent on their technological skill. In the research presented here, the focus is on teachers’ perceptions of the synchronous online classroom and its potential to transform the distance learning experience.

The synchronous online classroom, design and facilitation for first year students

For distance learners, synchronous webconferences can reduce impersonality and a sense of isolation (de Freitas &
Neumann, 2009) which are not addressed through asynchronous learning (Schullo et al., 2005). The building of trust, rapport and a sense of personal belongingness in learners (Falloon, 2011; McBrien, Jones, & Cheng, 2009) can enhance collaboration and success (Benbunan-Fich & Arbaugh, 2006; McBrien et al.). The enhanced satisfaction of distance learners associated with their experiences in web conferences (Huang & McConnell, 2010; Kuo, Kuo & Walker, 2010) has been attributed to the socialisation process in synchronous environments, however deep academic/content learning has been more closely aligned with asynchronous learning (Bower, 2011; Bower & Hedberg, 2010; Falloon, 2011; Hrastinski, 2008). Given the deep academic engagement that occurs in face to face tutorials, this divide is difficult to accept. The alignment may be more closely associated with the adaption of teachers’ beliefs to an online learning context or the beliefs held about the nature of the online environment itself (Churchill, 2006).

Technological literacy has been found to be an issue for teachers in synchronous online environments (Bower, 2011; Kear, Chetwynd, Williams, & Donelan, 2012). In particular, a lack of procedural knowledge may limit teacher practice (du Plessis & Naughton, 2008; Falloon, 2011; McBrien et al., 2009; Price & Oliver, 2007) and may limit pedagogy (Kear et al., 2012). This link has been identified by Bower in research in synchronous online classrooms. Research about pedagogical practice in virtual classrooms is still sparse, amidst a dominant focus on their technical affordances and on comparison of the systems available.

Face to face teachers have to re-learn and develop new materials afresh which has led to workload issues (Loch & Reushle, 2008; Price & Oliver, 2007), poor design, and a general sense of disappointment in the medium (Davis, Lennox, Walker, & Walsh, 2007). The outcome has been the perception, that online learning is a poor cousin to face to face learning (Davis et al.) which potentially assumes the limitations of a private theory.

In summary, any approach to transitioning teaching and learning online should be sensitive to the private theories of teachers associated with online learning, first year transition, and pedagogy. A broadly focussed theoretical framework is called for that is able to assimilate potential barriers posed by, and affordances offered by the private theories of teachers in this area. The Technological, Pedagogical and Content Knowledge (TPACK) framework offers this functionality.

The TPACK framework

The previous section identified the potential influence of private theories associated with technology, the nature of online learning and the changing nature of first year students, on teachers’ practice in the online environment. When the fundamental nature of these private theories is considered, they align well with the elements of the TPACK framework (Mishra & Koehler, 2006). Figure 1 shows a representation of the way that teachers’ private theories about each element are constituted by, and constitute their knowledge of each of the elements. Any limitations to knowledge in any of the elements, may lead to suboptimal learning.
Private theories, shown in Figure 2 may act as the limiting factor to teacher practice across any of the three core elements of the TPACK – content knowledge (CK), pedagogical knowledge (PK), or technical knowledge (TK). Furthermore, these limitations may restrict pedagogical content knowledge (PCK), technological content knowledge (TCK) and technological pedagogical knowledge (TPK). In Figure 2a, technology is represented as being a limiting factor to TPACK, and in Figure 2b, pedagogy (in this context, largely associated with first year transition) is the limiting factor. The diagrams show less opportunity for comprehensive TPACK as a result.

The framing of TPACK shown in Figures 1 and 2 provides a relevant representation to support an identification of the influence of private theories on online learning. It has been used to investigate the design and facilitation of learning in an online, synchronous classrooms (Blackboard Collaborate) in the first year context, with particular attention given their capacity to meet the needs of first year distance students. This has led to a focus in this research primarily on PK and TPK and private theories emerging from teacher experiences in this area.
Methodology

The research question that informed this research is: How do teachers’ private theories about technology, pedagogy and the needs of first year students inform their transition to online synchronous tutorials using Blackboard Collaborate?

Two subquestions were asked. The first is: how is pedagogical knowledge (PK), with particular reference to first year transition principles, translated to the online synchronous environment that is mediated by technology (TPK). The second is: how does technical knowledge (TK) influence teachers’ approaches to teaching in the online synchronous environment (TPK)?

Data was collected after a one year limited trial of Blackboard Collaborate. The research methodology was drawn from a constructivist approach, in which the views and perspectives of participants was central (Creswell, 2009). The primary interest of the research was to allow teachers the opportunity to tell their stories about learning in the synchronous, online environment. Discourse analysis (Gee, 2011) supported the representation of the experiences of participants through language. The data was collected through a series of online text-based reflections. These were framed by open-ended prompts asking about barriers and obstacles, and examples of pedagogies teachers had used, or found to be successful. The reflections were drawn together to represent a narrative of experiences of each participant. The decision to use qualitative data in this way was based on a number of considerations. It was designed to be confidential, non-invasive and non-confrontational. The exploratory and confidential nature of the research was deemed to be important given the challenge of teaching with technology for many teachers, and an potential lack of confidence. Whilst more in-depth data would be generated by interviews, the purpose of this research was exploratory only, to identify areas for further research and professional learning.
### Table 1: Summary of categorised participation responses

<table>
<thead>
<tr>
<th>Theme</th>
<th>Nature of data</th>
<th>Teachers (n=11)</th>
<th>Specific issues/comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technical issues (TK)</td>
<td>Sound and connectivity</td>
<td>11</td>
<td>Primarily sound connection. Poor bandwidth. Institutional implementation issues</td>
</tr>
<tr>
<td>(TK)</td>
<td>Induction and support (as a barrier to adoption or use)</td>
<td>4</td>
<td>Insufficient foundation technical knowledge. Insufficient just-in-time support</td>
</tr>
<tr>
<td>Pedagogy (PK)</td>
<td>Didactic – scaffolding and delivery of key messages</td>
<td>10</td>
<td>Clear expectations, procedures and content overview. Often involving question and answer.</td>
</tr>
<tr>
<td>(PK and TPK)</td>
<td>Participatory – interaction and feedback</td>
<td>10</td>
<td>Student contributions to whiteboard, response to questions.</td>
</tr>
<tr>
<td>(PK)</td>
<td>Support and belongingness</td>
<td>10</td>
<td>Person to person interaction. Personal and academic support. Induction into study and the profession. Exemplars and explicit expectations.</td>
</tr>
<tr>
<td>Induction and support (as a barrier to adoption or use)</td>
<td>3</td>
<td>Unclear expectations: how to integrate into courses; timetabling and participation</td>
<td></td>
</tr>
<tr>
<td>Teaching and learning benefits (PK)</td>
<td>Support and belongingness</td>
<td>10</td>
<td>Relationship building, collegiality, social interaction. Positive feedback from students. Consistent and transparent expectations. Shared problems and solutions.</td>
</tr>
<tr>
<td>Workload</td>
<td>Workload allocation</td>
<td>4</td>
<td>Time for transition, technical learning. Time to familiarise with pedagogical shift.</td>
</tr>
</tbody>
</table>
The narratives were analysed categorically for perspectives on pedagogy and practice in the virtual classroom, and technical issues associated with this practice. Several unifying themes emerged, within which the data is presented and analysed. All teachers who had conducted first year online tutorials were invited to respond. The response rate of eleven teachers was regarded as high, given that only thirteen courses were offered to first year courses in the given period.

Data analysis

Three key themes, consistent across the data sets emerged. The first two themes, namely technical considerations and pedagogical considerations were anticipated by nature of the reflection prompts. The third (workload) was an unanticipated issue that emerged in response to the prompt about difficulties, issues and barriers.

A summary of the teacher responses, which presents key emerging themes against elements of TPACK is presented in Table 1, which are elaborated upon in this section through the use of qualitative data.

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Personal theories, barriers and affordances: Technical considerations

In general, technical problems were experienced by all teachers and was at times “quite overwhelming to learn and use”. These technical issues were generally associated with sound problems and poor connectivity. Whilst Blackboard Collaborate has the capacity to manage poor connection speeds, many teachers were unaware of this feature. Internet speeds limited the ways that teachers wished to use the available tools, for instance “multimedia could also not be used because viewers were only able to see a stream constantly refresh itself.”

Technical problems aside, some teachers also had limited knowledge of how to manage the new learning environment such as an assumption that the tool could support “natural speech”. Where technical or technicial-procedural changes were not managed, pedagogy was limited, such as the lecturer who was reduced to “writing on what were essentially PowerPoint slides”.

Resilience emerged as important. The outcome for one novice user was that the problems tended to be associated with the affordances of the online classroom, which in cases then became translated to a critique of online teaching: “I have decided not to use it after it was given bad press about issues in technical matters.” However, most rationalised technical problems. One teacher stated that “my greatest difficulty is developing a comfort with the online tools but that is a personal issue that I need to keep working on... I panic when things don’t go according to plan in the online environment.” The strongest influence on teachers’ comfort emerged from the students themselves: “when one student
gently suggested that visuals would be helpful, and I took the leap of faith needed.” As experience grew, teachers identified the importance of networking. “As more people started sharing issues, I was able to anticipate and avoid problems more frequently.”

In contrast, for the most part, more confident or experienced teachers were not threatened by technical problems. Enhanced technical expertise led to teachers “(feeling) quite comfortable working in this environment so the only difficulties I experienced were simple things ...things that were out of my control”. Where difficulties were experienced, some were pragmatic and included students in seeking solutions:

When things went wrong I would share with them (the students) my problem solving strategies so we could all learn. I think that knowing that the world will not end with tech problems is really a 21st Century problem solving approach.

Many teachers took a learning community approach to overcoming difficulties and “made clear to students that such events can make the best laid plans go awry.” There was general consensus that students were accepting of technical problems: “I think (they have) a willingness to persevere with the technology despite some of the difficulties we may face.”

Whilst issues associated with a lack of experience were difficult to overcome, networking and personal support helped teachers to overcome the feeling of isolation in online classrooms. Some found that “it is very useful to have a colleague as ‘wing-man’, offsetting techno problems during the tute” to support teachers in the transition.

There are implications for the management of the development of technical expertise by teachers. There is also evidence presented here that a range of private theories about individual expertise and technical issues emerged which had the potential to influence pedagogy.

**Pedagogical approaches to teaching online**

Three themes emerged when analysing the way that pedagogy was described by teachers. These were social and emotional support, didactic approaches and learner-centred approaches.

Social and emotional support was identified by all teachers as being a key element that was valued by students. “Students very much appreciate hearing a friendly voice ... being a presence is a starting point. I try to build rapport with each student”. Teachers found that unexpectedly strong bonds formed in the online classroom, and many supported the formation of bonds through buddying activities to initiate peer support. Overall, all participants identified the social and emotional benefits to teachers and distance students in the online classroom: “They appreciate the feeling of connection and the opportunity to discuss their studies with their peers as well as receive feedback from their tutor”. Some identified a preference for online teaching: “I prefer online teaching to face to face. I feel I build close relationships and get to know intimately the learning needs of my students.”

Most teachers identified using didactic approaches to teaching in the online classroom. These included scaffolding of assessment tasks and “some very directed teaching about the tasks each week so that I am building up the assessment picture”.

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Question and answer sessions, and the delivery of key information were identified as core practices which grew into more interactive strategies “as ... confidence grew, including ... confidence that I would survive mistakes”. Interactivity also emerged such as “encouraging students to become involved by taking the microphone,” or “contributing to the whiteboard”, or contributing to chat. There was acknowledgement that teachers could “see the potential in what can be done, but just have a long way to go to build up my skills that allow me to do those things with some confidence.” The teacher-centred strategies were found to be supportive of learning and gave first year students a sense of belongingness and security. Teachers were also seen as important in providing standardised messages around assessment. When considered against the first year pedagogy principles, these strategies were aligned with the principles identified by Kift (2009) of scaffolded, explicit assessment, and considerations of transition and inclusivity.

There were wide-ranging approaches to learner-centred activity in Collaborate. Small group activities in breakout rooms were commonly used, “examined texts, ideas, concepts, providing peer feedback”. Other strategies included the use of the whiteboard and brainstorming, scaffolded activities and the manipulation the information by “comparing, categorising and classifying.” Students facilitated group work and discussions, thus “sharing their expertise.” Students also shared ideas through the use of synchronous, collaborative Web 2.0 sites, using application sharing to coordinate activity. Other approaches included activities that were scaffolded with a graphic organiser or strategy, such as think-pair-share routines, de Bono’s thinking hats, and fishbowl activities that developed the student “as expert”. Where design was learner-centred, teachers identified a reduction in planning and workload.

These learner-centred activities reflected Kift’s (2009) first year pedagogy principles of engagement, active and collaborative learning, and opportunities for formative feedback. The degree of interactivity however appeared to be dependent on the level of confidence with the technology and the online environment, thus associated with their TPK. Some teachers clearly identified that, as shown in the literature, their beliefs about teaching and learning were unchanged, but that the process of teaching in this way was different:

It has (not) made a difference to my teaching style ... (but it) has opened my thinking to the possibilities of online support and online tutorials. I see the potential in what can be done – I just have to build up my skills that allow me to do those things with confidence.

However, some teachers perceived the online classroom as simply failing to meet the qualities of the face to face environment: “it is a poor person’s option compared to face to face... in addressing some student learning needs”.

**General teaching and learning considerations**

Success was motivational and positive feedback from students was generally identified. One teacher said of her students that “it does not take long for a spark of confidence to become quite a bonfire,” and another stated: “When I had my first really engaging successful session, it was just lovely. The students were appreciative and provided me with positive feedback which encouraged me to keep on going.”
Perhaps the most contentious issue that emerged from the data, apart from technical problems, was that of workload. Whilst workload was only identified as an issue by some teachers, it is nonetheless significant. The “time to create slides and materials took many days for each new class” and was clearly an issue, albeit diminished with experience. It was evident that working with new technology required a change management approach that was personal and supportive, and embedded into the broader institutional context. Support by way of documentation or email responses was viewed as very basic and insufficient, with a just-in-time mentoring approach preferred.

Discussion: First year distance TPACK

It was suggested, when the TPACK framework was presented, that private theories about the nature of first year students and their needs may pose limitations on the pedagogy required to support transition (PK). It was also suggested that private theories based on personal technical competency and perceptions of the technology itself, and the process of using the technology for learning may be the limiting factor to synchronous online teaching and learning. The data indicate that implicit private theory about first year pedagogy, for many, led to a natural response to distance, and first year learner needs. Whilst technological knowledge was not a prerequisite for this pedagogy, it is clear that these core pedagogical values were transferred to the online classroom, and the first year principles outlined by Kift (2009) and others were evident across the data. Most identified the new opportunities for this type of distance pedagogy that were offered by the technology – with some identifying this as transformative.

Whilst, as identified in the review of literature, socio-constructivist learning is central to teacher education (Davis et al, 2007; du Plessis & Naughton, 2008), the data revealed that this approach was not always successfully transferred to the online environment, with only three teachers adopting constructivist pedagogy in their online classrooms. Whilst most teachers acknowledged strong private beliefs about constructivist learning, it was apparent that teachers saw their online pedagogical growth being related to technical confidence, as well as operational confidence with the technology. Thus, all teachers had transitioned from information delivery to greater interactivity as their confidence grew. Thus, again, private theories about their own technical competence were perhaps the strongest influence on online pedagogy – found in the intersection of pedagogy and technology as TPK. As a consequence, in the face of technical barriers, some teachers relied only on a set of core skills similar to the what is reported in other research (Waycott, Bennett, Kennedy, Dalgarno, & Gray, 2010). Some developed the procedural skill to manage the technology for learning transactions and outcomes, another obstacle identified in the literature (Bower, 2011; Falloon, 2011; Kear et al., 2012; McBrien et al., 2009). However where procedural skill was under-developed (limiting TPK), online pedagogy was compromised, reflecting Price and Oliver’s (2007) findings.

In summary, the online experience of teachers and students has been shown to be dependent on the knowledge of teachers in areas of overlap of technology and pedagogy as it is represented in TPACK in Figures 1 and 2. For those teachers who
demonstrated exceptional understanding of first year needs, pedagogical knowledge proved not to be a limitation to their knowledge and practice, and for those who had experience in online classrooms, technical barriers were removed.

**Conclusion and implications**

A number of implications have emerged from this exploratory research. As an organisation, there is a need for a continuing focus on professional development, mentoring and networking. Opportunities for the sharing of modelled online experiences may support the development of the procedural knowledge of the tools identified by Falloon (2011) and McBrien et al. (2009). There is also room for organisational growth through the formal development of a more consistent, shared understanding of first year transition distance pedagogy. Associated with this, should be the space and time to learn and enact the lessons learned.

As a broader generalisation, the data indicated that teachers’ pedagogy was able to surpass that reported in the literature, particularly with reference to claims that the synchronous environment is more closely aligned with social interaction rather than deep learning (Bower, 2011; Bower & Hedberg, 2010; Falloon, 2011; Hrastinski, 2008). Whilst not a practice shared yet by all teachers there is sufficient evidence from the teacher data that, online tutorials can provide opportunities for distance students that are equivalent to those able to be offered to face to face students.

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