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Exploring Staff Perceptions: Early Childhood Teacher Educators Examine Online Teaching and Learning Challenges and Dilemmas

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Abstract
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Keywords
Scholarship of Teaching and Learning, SoTL, Early childhood teacher educators, Online teaching and learning

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Abstract

Early Childhood teacher educators at Queensland University of Technology (QUT) have been engaging with online teaching and learning since the mid 1990s. On campus students have lectures and tutorials supported by information and communication technologies via QUT's home grown learning management system, Online Learning and Teaching (OLT). We surveyed academic staff to identify their perceptions of online provision. Of significance were issues around transmission, constructivism, and interactivity, especially for external students, with a perceived preference amongst all students for knowledge transmission. There are also constraints for staff, specifically the technological limitations of the learning management system and our own limitations as online curriculum developers. The findings of this study suggest a need to develop staff capacity to work more effectively in an online environment and to consider the efficacy of blended approaches to teaching and learning.

Introduction

The School of Early Childhood (SEC), part of the Faculty of Education at Queensland University of Technology (QUT), is the largest provider of university-level preservice teacher early childhood education programs in Australia. The School has an annual intake of between 400 and 500 students and delivers approximately 300 graduates for the early childhood education field each year. Students are enrolled in 3- or 4-year bachelor programs and 1- or 2-year graduate diploma programs which can be studied in internal (face-to-face) or external (distance education) modes. These programs have large cohorts of students with enrolments in individual units (subjects) comprising a mix of students from a variety of courses and modes of study. It is not unusual to have enrolments in core units of over 200 students. Units are managed by unit coordinators: teaching staff with specialist knowledge in the content area of the unit. The role of the unit coordinator is diverse. It spans

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leadership of colleagues teaching in the unit, planning and organising curriculum, teaching approaches and resources, dealing with student matters relating to unit progression and assessment, as well as initiating and developing unit improvements. An important dimension to the role of the unit coordinator is that of designing and maintaining the unit's online or internet resources. The platform for this is QUT's own Learning Management System, Online Learning and Teaching (OLT). Investigating staff use of OLT became crucial in 2005, when print materials for external students were replaced with totally online delivery of unit materials. The development of staff capacity to work in a fully online context, while at the same time devising innovative ways to engage students in the online environment, provided SEC staff with significant challenges. These challenges provided the context and impetus for the study of staff use of OLT reported here.

Staff Challenges in Using Information and Communication Technologies for Learning and Teaching

There is rapidly growing interest in the use of information and communications technologies (ICTs) in higher education. According to Bridgland and Blanchard (2001), "the particular attributes of an online learning environment provide teachers with powerful new ways to represent knowledge that are not available in a print environment" (p. 188). Although the past decade has seen enormous growth in online learning, many teachers are still grappling with challenges in relation to role expectation, pedagogical approaches and use of technology (Dziuban, Shea & Arbaugh, 2005). Central to improving online teaching, is an understanding of how individual teachers perceive the merit of online learning technologies and how its use fits with their current teaching practices and beliefs (Myers, Bennett, Brown & Henderson, 2004). Such knowledge, Myers and colleagues argue, enables more effective and targeted provision of programs for staff professional development. Churchill's (2006) study supports this view, indicating that teachers' underlying theories about learning need to be challenged if student-centred technology-based learning is to be developed.

Commenting almost a decade ago, Bourne, McMaster, Rieger, and Campbell (1997) suggested that many online environments failed to take advantage of the potential of asynchronous learning to change the way education is delivered and the way people best learn. The traditional classroom experience was captured in a box; the "sage on the stage" was simply transferred to "the sage in the box". While there have been rapid developments in information and communication technologies in recent years, many teachers have found it challenging to utilise the opportunities for collaboration and social interaction afforded by these innovations. Curran (2001) contends technology rather than student need or effective learning theory is the driver of many online programs. Boshier et al. (1997, cited Rovai & Barnum, 2003, p. 58), for example, examined online sites in terms of attractiveness, interactivity and accessibility – important markers of student-focussed design. They ranged on a continuum from "best dressed" to "worst dressed"; those at the lower end of the continuum offered very limited student-teacher or student-student interaction. A survey conducted by Shannon and Doube (2004) revealed staff tended to use the web mainly for communication and content delivery. Bird (2004), Conrad (2004), Ladyshewsky (2004) and Oliver (2001) all cite research into online courses in which teachers integrate existing teaching practices rather than adapting them for an online environment.

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Pedagogical approaches based on transmission of information persist. Dzuiban, Shea and Arbaugh's (2005) review of current models of learning highlights the social and cognitive nature of learning and the significance of learner-centred active engagement; the teacher is a facilitator of learning rather than a dispenser of information. Social constructivist, Vygotsky (1978), theorised that meaning-making develops through the social process of language use over time. Thus, interactivity

and dialogue are essential components to promote active construction of meaning. Interaction and the construction of knowledge are at the heart of the learning process. Teaching that reflects a constructivist approach enables learners to be actively involved, often collaborating with others as they explore subject material. One of the key benefits of computer-mediated communication is the opportunity for construction of meaning, learning about different viewpoints and developing shared understanding as a result of exploration of ideas put forward by both teacher and fellow students (Dennen, 2005). Teachers and students need to work together to generate deeper levels of understanding, question and critically evaluate knowledge.

However, to participate successfully in task-driven interactions learners need to be able to build relationships that enhance feelings of safety and trust. Conrad (2005) discusses this in terms of 'building community', defined as "a general sense of connection, belonging, and comfort that develops over time among members of a group who share purpose or commitment to a common goal" (p.2). Additionally, she states that the creation of community for online learners should "simulate the comforts of home, providing a safe environment, an atmosphere of trust, an invitation for intellectual exchange, and a gathering place for like-minded individuals who are sharing a journey that includes similar activities, purpose, and goals" (p 2). A growing body of literature (e.g. Shin, 2002; Richardson & Swan, 2003; Shin & Chan, 2004) is revealing that high levels of interaction, particularly those that enhance feelings of social presence, can have a positive effect on students' perceptions of learning and satisfaction with their overall study experience. When students feel a sense of connection with their teachers and other students, and they know that someone is available to assist them if required, their feelings of social presence are increased.

Two essential theoretical constructs frequently mentioned are the theory of transactional distance (Moore, 1991 and Moore and Kearsley, 1996, both cited in Wheeler, 2002) and social presence (Shea, Li & Pickett, 2006). Rovai (2002) maintains that social presence and transactional distance are both essential factors that impact on the sense of community within online environments. Distance learners, including those in an online environment can feel isolated (Lennox, Davis, & Heirdsfield, 2006). Although they are separated geographically, Moore defined the distance between learner and teacher as a pedagogical phenomenon rather than a geographical separation; as a psychological and communications gap, rather than a physical gap. The gap could be effectively bridged and distance minimised in courses with high levels of dialogue and teachers who provided ongoing guidance and who were prepared to modify learning materials to meet the needs of individuals. Wheeler (2002) lists a number of studies that confirm the significance of quality interaction, especially between learner and instructor.

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Class size has a significant effect on interactivity and fruitful discussion. It will impact on teacher behaviour and will produce different group dynamics (Jaques, 2003; Jaques, 2004; Jaques & Salmon, 2006). Although Jaques (2004, p. 7) is commenting on face-to-face contexts, he notes that it is difficult to "mobilize the intellect" in large groups; he suggests six as a critical number for effective teaching and learning. "When it works well, discussion can allow students to negotiate meanings, express themselves in the language of the subject, and establish closer contact with academic staff than more formal methods permit" (Jaques, 2003, p. 492). Many reports of studies making claims about successful online pedagogical practices are

based on small classes. Rice (1994, cited Rovai, 2002) found that class size influenced learning activities. Arbaugh and Benbunan-Fich (2005) also cite research revealing that it is difficult to promote a sense of community in large classes; they tend to be more impersonal and less individualised than smaller groups. Teachers in Keeton's (2004) study maintained that classes with more than twenty students were difficult to manage and to provide prompt communication. Clearly class size impacts on both the learning community the social community. Although more research is required to identify optimal teacher-student ratios in an online environment, it appears that if group size exceeds thirty students the quality of the learning experience is reduced. In the School of Early Childhood, where this study is based, it is not uncommon for an individual staff member to be managing groups of between 100-200 students.

Finally, exploration of new technologies and designing and organising effective learning environments take large investments of time. Many teachers are grappling with technical issues; new technologies require a lot of new learning (Conrad, 2007; Palloff & Pratt, 1999, 2002). However, technology does not teach students; effective teachers do. Dennen (2005) stressed the importance of teachers understanding the qualitative differences between online and classroom-based learning environments and emphasised that new strategies and techniques are required for successful online teaching. Experts in face-to-face instruction need to acquire new strategies and techniques for successful facilitation of learning in an online environment. Shannon and Doube (2004) reported educators' most frequently mentioned concern was time and workload and that teaching online was more time consuming than face-to-face teaching. Time pressures made it difficult "to acquire necessary skills to do a good job and to invest the extra time needed to prepare good quality materials" (p.9). Similar comments have been noted by other researchers (Bonk, 2001; Bridgland & Blanchard, 2001; Fein & Logan, 2003; Reushle & McDonald, 2004; Spector, 2005).

It is clear that issues confronting staff are wide-ranging. Building the capacities of staff to operate effectively in the online teaching and learning environment is, then, a complex task. To help us become more successful, this study was devised with the specific aim of gaining a detailed understanding of the various perceptions and experiences that SEC staff have of online learning. From this starting point, we felt we would be in a better position to develop further opportunities for learning and support.

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Method

Study context

Most staff members in the School of Early Childhood would subscribe to, and practice, constructivist approaches to teaching in their face-to-face classes. This has been evidenced by discussions in teaching and learning committee meetings and general staff meetings, and by examination of the materials provided by staff for students on their teaching and learning websites. However, to varying degrees, staff members have experienced difficulties and challenges in replicating these approaches in an online environment. The Online Learning and Teaching (OLT) system has been used in the delivery of teacher education programs for almost a decade. Currently, all individual units have a dedicated OLT website. The aim is to

enrich the learning experience for students by providing access to a variety of online resources; for example: lecture PowerPoints, learning modules, links to other websites, discussion forums, chat rooms, and the Course Materials Database (a subject-specific electronic repository of readings managed by the library). Although online resources provide opportunities for enhanced flexibility, in reality, the most prominent use is for one-way communication to students as a virtual adjunct that supplements traditional face-to-face programs for on-campus students. However, since 2005, they have become the mandated means of instruction for external students: all delivery of new units is now completely online. Specifically, this means that external students no longer receive a printed package of study materials; they must be able to access the internet in order to engage in and complete their studies. In Australia, 60% of households currently have home internet access (Australian Bureau of Statistics, 2006). Although the university has grappled with issues of equity and access to online resources for students with disabilities (for example those with vision impairment), for students without home internet access, such as those with low incomes or those who reside in remote locations, there is little in the way of research and evaluation to assist policy formation and staff development in relation to online learning and teaching.

Data Generation and Analysis

All academic staff within the School of Early Childhood, were invited to complete an online survey designed to identify participants' use of a range of OLT features. Participants rated the extent to which they used each of the OLT features on a Likert-type scale from 1 (use regularly) to 4 (never use). The survey also invited qualitative descriptive responses with respect to the best and worst features of OLT; use of OLT in an interactive manner; the type of support staff would find helpful in order to use OLT as an effective pedagogical tool; and their overall perceptions of OLT. These qualitative responses were extensive and provided 'thick description', obviating the necessity for follow-up interviews. Responses were collated and reviewed by members of the research team. Data was then analysed using an interpretative-descriptive approach using the constant comparative method (Strauss & Corbin, 1998). As Maykut and Moorehouse (1994) explain, this is an exploratory data analysis approach that is reliant on respondents' words and meanings. There were 21 completed surveys giving a high response rate of 75%. The authors recognise that, even though the response rate is high within this particular

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department, the findings are not necessarily indicative of the majority of the Education faculty in relation to OLT.

Findings

Staff use of specific OLT features varied, with the majority of staff regularly using features which facilitated the dissemination of information such as Notices (n = 18), Notices copied as emails (n = 16), Course Materials Database (n = 18), lecture notes (n = 21), study guide (n = 19) and website links (n = 12). Staff were less likely to regularly use features which could be seen as more interactive, such as chat rooms (n = 0), group work areas (n = 4) or discussion forums (n = 9).

Positive Features of OLT

Staff were asked to comment on the best features of OLT and, in line with the use of OLT features described above, many staff (n = 10) saw the best feature of OLT as its capacity to act as a medium for swift dissemination of information to large student groups as the following range of responses indicate:

> *Its potential to disseminate information to a large cohort of people and it diminishes individual student queries.*
> *Speed of contact for example, for notices of changes in the unit.*

A smaller number of staff (n = 4) also commented on the pedagogical potential, highlighting that OLT provides:

> *Complementary activities and learning support to on-campus teaching for example, through discussion forums.*
> *Students able to see each other's work.*
> *Capacity to extend students with very recent resources or extension ideas /challenges.*

Worst Features of OLT

Many staff members (n = 12) commented on the time-consuming nature of OLT site creation and maintenance. This was seen by staff as adding significantly to their workload. For example, one participant commented:

> *I enjoy (mainly) constructing and using it but believe that staff need extra time built into workloads for this work, especially if being used with large groups or for developmental work. Trying to manage discussion forums with 100s of students is very difficult. I experimented with these a few years ago but now don't use forums as I can't put in the time.*

Difficulties with the functionality of the OLT technology also emerged as an issue for staff. These concerned both infrastructure and OLT design problems:

> *Many features not too user friendly*

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Still can't coordinate PowerPoint slides with voice.
At the beginning of semester there is a lot of traffic on the site; it is difficult to load documents and edit text – it can be so slow.

Lack of technological expertise was also seen as an issue for some staff (n = 6):

At this stage I am unable (incompetent) to develop a chat room or discussion forum, and in all honesty I don't really want to.
To get some text up in text areas requires knowledge of html, which I don't have.

Finally, staff expressed concerns about lack of face-to-face interaction with students, or the issue of students' substituting class attendance with OLT experiences:

Students see it as a substitute for face-to-face contact but it lacks the same qualities of interaction of face-to-face teaching. I believe there are subsets of students who opt for this mode as an alternative rather than as a complement to the courses I teach which are designed to be on-campus. Video and audio streamed lectures encourage students not to attend which I believe is a real problem.

Staff limitations in Using ICTs

Staff were aware of their own limitations in terms of understanding technologies for teaching and learning and their abilities to use these technologies effectively:

There is the challenge of developing quality learning, not just information. Considerable capacity for extending student learning options if well used, but my sites are limited by my own capacity in using online teaching

Although Web courseware, such as our OLT learning management system, WebCT and Blackboard provide a helpful framework and support for teachers, there are many reports of challenges faced as teachers try to adopt and adapt new pedagogical approaches for the online environment (see Bridgeland & Blanchard, 2001; Bullen & Janes, 2007; Bates, 2001; Kenny, 2002; Smedley, 2005).

Issues with Student Capability and Access

Staff were very conscious of students' differing levels of access to the OLT technology and their various levels of engagement with the technology, especially with respect to off-campus (distance) students, as these comments signify:

External students appear to really use it only when prompted. Internal students use it regularly for functional purposes but there is a wide variation in levels of use.
There appear to be more externals who have difficulties…I believe these students are generally not as "savvy" with ICTs which is a disadvantage now that this is the typical mode.

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Issues with Interactivity

Although most staff used OLT predominantly for transmission, some staff (n = 5) indicated that they could see the potential for more constructivist ways of engaging students in learning online. For example:

> *Group work area is good and I would like to use this more, and more effectively.*
> *Discussion forum, notepads, but I would like other ways for students to be interactive e.g. concept maps/webs; personalising sites; "drawing" as text; tools such as "Inspiration*".

Discussion

The findings in this study are consistent with much of the literature. The study illustrates the complexity of issues involved in engaging university lecturers in change processes necessary for effective use of ICTs for teaching and learning, and it raises a number of questions and issues. These centre upon mismatches between staff beliefs about quality teaching and learning and their actual practices online and with perceived student preference for transmission approaches. Equity for students in relation to capability and access to online services and the inflexibility of the technologies are also of concern. Interwoven with these issues is the fact that many staff do not believe that online teaching and learning can ever be a full replacement for effective face-to-face teaching and learning in pre-service teacher education.

As indicated earlier, the majority of School of Early Childhood staff subscribe to social constructivist views of teaching and learning, and are generally viewed as competent teachers in face-to-face teaching (verified by higher than Faculty average scores on formal teaching evaluations). Our experience and self-reflection tell us that we strongly value the relational dimensions of our work. As a group, we incorporate many strategies for engaging students, for modelling 'constructivist' practices, for supporting students socially, and in their learning. This is not unexpected. After all, we are educators in the business of educating teachers to work with young learners. Consequently, even though our survey shows that staff are generally supportive users of OLT, most recognise that online is never going to be the "whole story" of our pedagogical practices with students. The following set of comments reflects this:

> *OLT is an extremely effective tool, however, this should not be replacing on-campus teaching and learning, (despite some student's beliefs)*
> *Essential and valuable but not a replacement for the rigours of face-to-face; I always understand online learning as just part of the story.*

Staff perceived that many internal students, in particular, prefer transmission of content via the OLT sites rather than interactive engagement because they can get what they need immediately, and when they need it. This has been verified by the results of our other studies of these students (Heirdsfield, Davis, Lennox & Walker in press). A dimension of this same issue is that many on-campus students are making conscious choices about attending university-based classes with a significant number

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opting for erratic, 'flexible' attendance at weekly classes determined by work and other commitments and choices. This indicates a preference for transmission-style pedagogy – a 'quick in, quick out', no-nonsense approach to learning. Many external students, on the other hand, appear to crave the interactions that OLT offers.

> *Discussion forums are used more by external students than by internal students – means of support and communication, I suppose. Internal students use lecture notes and audio-streamed/ video-streamed lectures so they don't have to attend lectures.*
> *OLT is essential for external students but I do feel, both from the perspective of teaching via this mode and studying via this mode, that it lacks the element of direct teaching. Study in external mode is isolating and OLT does not, in reality, break down that isolation though the use of discussion forum and chat has attempted to do so.*

Furthermore, staff hold a strong "ethic of care" concerning students' access to, and capabilities with using computer technologies, and especially so for our external students, some of whom live in rural and remote location, thousands of kilometres from the university and have irregular and often poor quality computer hardware and internet access. Most have direct knowledge of some students' individual circumstances and know that some students struggle. Hence, staff query whether we can provide a quality, equitable learning experience for students who have real difficulties with capabilities and access to ICTs. They question their ability to facilitate both social and cognitive engagement at a time when students are time poor and many clearly indicate that they value transmission over other (more demanding) pedagogical approaches.

Another dimension relates to our questions, expectations and frustrations with the technologies themselves. How do we get "beyond delivery" when the technology itself makes this difficult or is cumbersome and time consuming to set up and maintain? Innovation in each individual unit makes that unit distinctive. If all units did the same thing, then that would become de rigueur (standard and accepted). The special features of a unit help to facilitate students' engagement with that unit. Yet, web governance and human and financial resourcing issues place restrictions on what staff can do – the idea of a 'lone wolf' developing unique, experimental work is not really encouraged by the system which tends to favour technological efforts that are transferable for use by many. In addition, lumbering (expensive) systems within universities are finding it difficult to keep pace with the rate of change and variety of options that our student clients are becoming used to (for example, using entertainment technologies). We cannot adapt with the same speed and responsiveness.

> *OLT takes a lot of time to create especially if trying to do new things such as interactive design.*
> *Not having access to all the features of OLT – having to phone OLT support to have certain features activated.*
> *I'd like to be able to put videos on the CMD [Course Materials Database].*

In other words, our expectations are somewhat restricted by the technologies we currently have available to us, especially if we do not want a proliferation of

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standardised OLT strategies. Similar issues have been reported in a number of other studies (e.g. Arbaugh & Benbunan-Fich, 2005; Conrad, 2007; Dziuban, Shea & Arbaugh, 2005).

Conclusions and Implications for Practice

It is apparent that staff in the SEC are thoughtful, committed teachers who, generally speaking, are interested and excited by the challenges and opportunities offered by online learning, but also rather frustrated by the limitations of the technologies and systems in which they work, and their own capabilities as designers and teachers of online learning. To help overcome our own inadequacies, we have formed a number of collaborative research teams within our work group in order to share ideas and strategies, discuss dilemmas, learn new skills and generally support each other in our efforts to develop better teaching and learning environments for students.

It is evident that if we are to move forward, we need to focus on developing online communities and blended approaches to teaching and learning. Blended approaches replace a dualistic view of face-to-face versus online with a synergistic approach that integrates the best features of teaching and learning regardless of the mode of delivery. This view is supported by Rovai, Ponton, Derrick and Davis (2006) who suggest a need to balance online delivery with physical presence. A blended approach takes account of different preferences of learners: satisfying the desire for personal contact for some, and independence and flexibility within a supportive and collaborative online environment for others. Smedley (2005) suggests working in a blended environment can also address staff frustration and help them manage change effectively. Teachers can move in small increments as they develop the necessary skills.

We value ongoing "professional conversations" as researchers. Feldman (1999) maintains that conversation is much more than a data collecting technique. It can also be part of the research process of sharing and clarifying knowledge, thus facilitating understanding and the meaning-making processes of critical inquiry. All researchers in this project have found these conversations to have been very enriching and stimulating, often leading to changes in pedagogical practices. Support from a "more knowledgeable other" has also been a trigger for change. It is evident that our staff cannot move forward alone. There is a need for close collaboration with instructional designers skilled in online pedagogy if staff are to be enabled to engage in more effective constructivist online practice.

In conclusion, the issue that underpins further improvements in staff competencies concerns ongoing staff development. Song and colleagues (2004) refer to the need to build skills and raise comfort levels in the use of technology for the effective facilitation of online learning and teaching. Wilson (2004), in her paper about staff development for online teachers makes the point that a "competent, confident online teacher is a new and different role for academic staff" (p.4) which requires adequate, appropriate and ongoing staff development, requiring institutional support. In the light of our own data – and taking Wilson's comments into account - we offer the

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following suggestions for our own ongoing staff development in the School of Early Childhood:

1. Staff participation in accredited continuing professional development about online learning design and instruction;

2. Online staff development which has the advantage of enabling staff to experience online learning for themselves. This also builds capacity for online learning through the development of localised peer support and mentoring; and

3. Designing staff development aligned to levels of need and/or readiness of academic staff. This stages the processes of change with appropriate and timely support. It is only through these and other such commitments that use of effective online learning strategies move from being 'experimental' and innovative and into mainstream practice for all staff and students.

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