

# **Classrooms and chat rooms: augmenting music education in initial teacher education**

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## **Abstract**

This paper reports on a design-based research project that investigated the possibilities of creating a novel learning and teaching environment, advancing and consolidating design knowledge and increasing individual capacity through and for innovation. It substantiates the pedagogical possibilities and practicalities of exploiting instructional delivery technologies to augment music education courses to be a valuable and productive way forward in addressing ongoing issues of quality and sustainability in initial teacher education. A range of pedagogical possibilities used to augment face-to-face interaction is presented. These illustrate how creating opportunities for students to engage in a range of social interaction and collaborative activities encourages a diversity of perspectives and dynamic exchange- a technological revolution through instructional evolution.

## **Keywords:**

initial teacher education

music education

design-based research

instructional delivery technologies

## **Background and rationale**

For a number of years now, people have been declaring the advent of the “digital native” born of the “Net generation”. These terms describe members of a generation whom have been exposed since birth to the Internet and hypertext. There has been an expectation that they think and process information differently from previous generations. In some Universities this has led to calls for curricula and instructional delivery technologies to be revamped in order to cater for the “new learner.” The growing importance of good educational design recognizes that students’ needs are becoming more diverse, teaching staff are under increasing pressure to provide better education with fewer resources, and that employers’ expectations of new graduates are not diminishing. Reproducing traditional practices can be efficient if the environment is static, but in times of transformation, methods need to be rethought - “We have to build the means for e-learning to evolve and mature as part of the educational change process, so that it achieves its promise of an improved system of higher education” (Laurillard 2006, p. 71).

Together with the Net Generation discourse, there has been much interest in the potential of instructional delivery technologies as learning tools. A number of Web 2.0 technologies, specifically blogs, wikis, and podcasts, are already widely used in higher education. Blogs have typically been used as tools for students to record their reflections about their learning experiences or to share with other students their insights about the learning content (Farmer, Yue & Brooks, 2008; Instone, 2005; Stiler & Philleo, 2003; West, Wright, Gabbitas & Graham, 2006; Williams & Jacobs, 2004). Wikis have been used as tools for students to collaboratively produce and publish content (Bruns & Humphreys, 2005; Forte & Bruckman, 2006). Podcasts have typically been used to record and distribute lectures or other learning content, although there have

been a few examples of more innovative uses of student-created podcasting in education (Chan, Lee & McLoughlin, 2006; Frydenberg, 2006).

An exhaustive literature review undertaken by Waycott, Bennet, Kennedy, Dalgarno, & Gray (2010) revealed a range of further new and emerging technologies that have been used in higher education, including mobile phones and MP3, players virtual worlds and gaming technologies and social networking tools.

Many universities across Australia and internationally have invested in virtual learning platforms or Learning Management Systems (LMS) to enable large-scale coverage of e-learning to engage students and to enhance the quality of the student experience through interactive and participatory learning activities that would not normally be possible through traditional face-to-face contexts. Blackboard and WebCT are well-known examples of LMS, providing lecturers with access to instructional delivery technologies such discussion boards, mail systems and live chat, along with content such as documents and web pages (Gosper et al., 2008).

Demands on the time and intellectual dynamism of academic teaching staff within the Universities are increasing, and there are few signs of this trend weakening. There is pressure to spend more time on research and scholarship of teaching rather than investing time in the act of teaching. This means that any initiatives intended to augment the student experience *must* be realistic about the available time, drive and expertise. The potential of using instructional delivery technologies (IDTs) for learning purposes in universities has been viewed as a means to enhance

the student experience and reduce costs. This has not necessarily resulted in courses being transformed online but rather it has involved the utilization of IDTs in such a way as to complement, augment and amplify what is being done in courses using traditional modes of delivery.

Within universities, not all disciplines have been equally responsive to integrate IDTs into the classroom. Students in visual and performing arts, education and the humanities had the lowest availability of IDTs – less than 40% of classes taken by students in these disciplines had moderate or advanced levels of IDTs available. Conversely, the physical & life sciences and math & computer sciences had the greatest availability of IDTs, with nearly 60% of classes having moderate or advanced levels of e-resources, and, in the case of physical sciences, 25% having some form of advanced IDTs (Kaznowska, Rogers, & Usher (2011)).

## **Aim of the project**

This research project aimed to investigate the potential of instructional delivery technologies to augment best features of face-to-face interaction within a Music education course undertaken by first year initial teacher education students. The design-based research project explored the possibilities of creating a novel learning and teaching environment, advancing and consolidating design knowledge and increasing individual capacity through and for innovation.

## **Research design and method**

Design-based research (Brown, 1992; Collins, 1992) is an emerging paradigm for the study of learning in contexts through the systematic design and study of instructional strategies and tools. The Design-Based Research Collective (2003) argues that design-based research can assist in the creation and extension of knowledge “about developing, enacting, and sustaining innovative learning environments” (p.5). There is no single design-based research method, but rather an explicit overarching concern for using methods that link processes of enactment to outcomes. This overarching concern is seen to have the potential to generate knowledge that directly applies to educational practice. “The value of attending to context is not simple that it produces a better understanding of an intervention, but also that it can lead to improved theoretical accounts of teaching and learning” (The Design-Based Research Collective, 2003, p.7). This approach in which the context and intervention are problematized sets this research method apart from traditional evaluation where the intervention is evaluated against a set of pre-determined standards (Worthenm Sanders, & Fitzpatrick, 1996). The intention of design-based research in educational settings is to generate models of successful innovation rather than particular artifacts or programs (Brown & Campione, 1996).

## **Problematizing the context and intervention**

Initial teacher education in Australia has been condemned for its inability to produce teachers with the necessary confidence to teach even the simplest levels of artistic skills (Comte, 1993; SERCARC, 1995). This re-emerged as a concerning finding in the National Review of School Music Education (DEST, 2005) and in the National Review of Visual Arts Education (DEEWR, 2008). Added to this, most students enter their initial teacher education programs with limited formal education in the arts (music, dance, drama, visual arts and media arts) and, despite this,

face-to-face time for university courses is constantly decreasing (Russell-Bowie, 2002, Kloppe, 2007). As a result many teachers emerge from these programs reporting a lack of sufficient discipline content knowledge, understanding and skills and the pedagogical confidence to teach arts subjects in the primary classroom.

1105EDN Music Education is a 13-week semester-long compulsory course for all students enrolled in the Bachelor of Education (Primary) program. It is the only dedicated arts course within the four-year program situated in the second semester of the first year. A review of student evaluation of course (SEC) data over the past three years revealed that students found the course outcomes particularly difficult to achieve within the time offered for on campus face-to-face teaching. Many students are confronted with balancing the time required for self-study and casual work demands associated with gaining financial assistance, understandable often allowing the latter to take preference. This is exacerbated by academic pressure to focus on research output and less on the act of teaching. This led to problematizing the context and interventions through the formulation of the research question: What teaching and learning intervention/s can be designed and implemented to augment best features of face-to-face interaction within a Music Education course and scaffold learning to support the achievement of learning outcomes?

## **Salient findings**

The design-based research project explored:

- possibilities of creating a novel learning and teaching environment

The course was implemented according to the Griffith University mandatory three hours per week (one hour lecture and two hour tutorial) model of delivery, with a further seven hours expectation allocated for course related self-study. The lectures were designed to present the theoretical content through transmission mode while the tutorials provided avenues for interactive practical application of the lecture material as “instruction dependent on voice lecture and reading assignments alone often produces an overly abstract treatment of subject matter, making course concepts difficult to understand (Miller, 2009, p.395). The Learning@Griffith course site (LMS) was identified as the platform best suited to harness the potential of a range of instructional delivery technologies to augment best features of face-to-face interaction “by virtue of generating vivid and complex mental imagery” (Miller, 2009, p.395). The range of IDTs needed to offer synchronous and asynchronous engagement opportunities. To this end, the LMS made provision in the following ways:

*Course content* was offered from the beginning of the semester in a focused folder for each week consisting of lecture notes; lecture power point slides, and recommended readings. Each lecture was captured weekly using an automated *Lectopia* capture operating system and uploaded to the course site within ten minutes of the lecture concluding. This allowed students to repeatedly access the lecture asynchronously for further engagement, reflection, and clarification. It also afforded absent students access to the lecture presentation.

The *assessment vodcast* provided explanations of the text-based assessment task. These vodcast proved valuable in offering a uniformed interpretation of assessment expectations, which both

students and sessional teaching staff could refer to throughout the semester.

The virtual learning environment, *Wimba classroom*, was opened for synchronous interaction five times during the semester of 50 minutes duration. This occurred after an overview of operation was presented during the tutorial of week one. Further text-based support materials were provided on the LMS to guide the student through installing and running the *Wimba Wizard* on their personal computers. The intention of the Wimba classroom was to assist students to undertake the written task successfully through support offered via alternate ways. Sessions focused on academic writing skills, unpacking the task, making sense of the prescribed readings and writing the essay. The centrality of critical thinking underscored the sessions. While this virtual learning environment offered synchronous interaction it was decided to archive all the sessions to allow asynchronous membership. This proved valuable for students who were unable to actively participate during synchronous availability.

*Other resources* contained exemplars of learning resources, suggested further readings, tips and hints for assessment tasks, and shared findings where students could upload found resources suitable for the teaching of music education in the primary school. As part of the written assessment task, students were required to evaluate a found resource. To this end, [www.artsmmadd.com](http://www.artsmmadd.com) was provided as an open source content webpage for use.

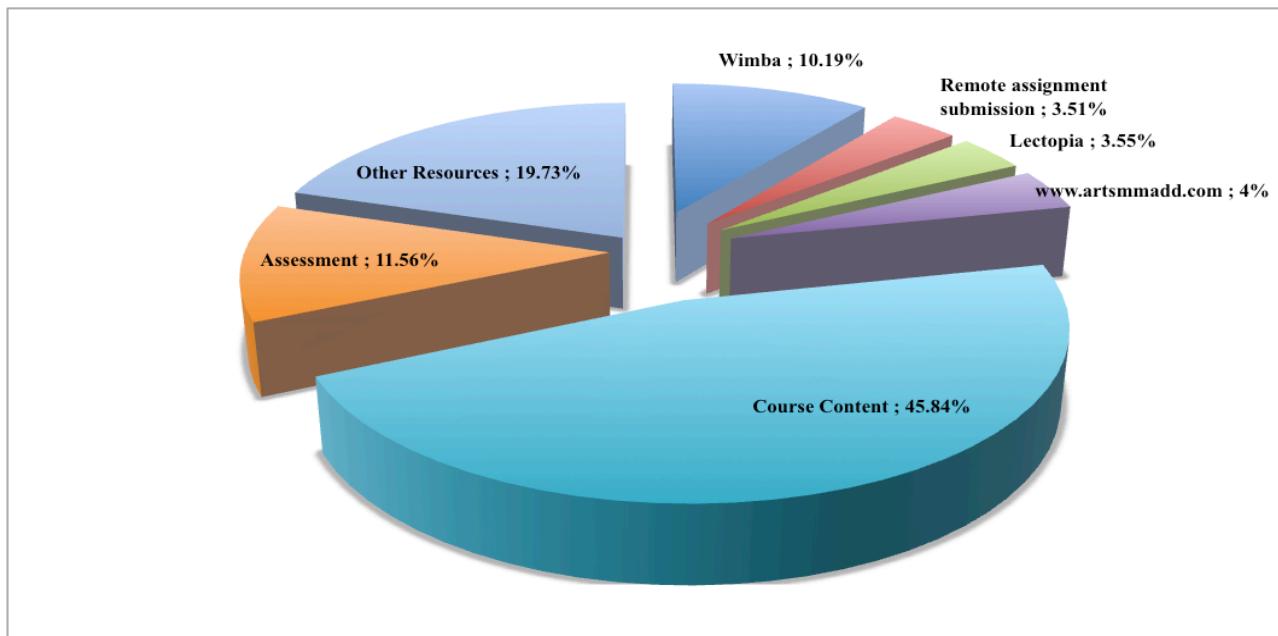
Remote assignment submission was selected to reinforce the use of ICTs within this course. This



submission mechanism allowed students to submit their assignment remotely from an off-campus location.

A representation of access by source is presented in Figure 1. It does not argue for any one source to be better or superior to another, but rather provides the backdrop to discuss the potential of each source to support the achievement of the learning outcomes through scaffold learning.

Figure 1: Learning@Griffith- Access of source



Not surprisingly the Course Content received the highest access. As lectures were the principal mode of content delivery the 45,84% access of source suggests the importance and value that students place on having access to the course content. In the attempt to revamp the instructional delivery technologies with this course to cater for the ‘new’ learner by integrating IDTs into the

classroom, I expected a much higher access percentage associated with the *Lectopia* and *Wimba* sources. I can rationalize the low access rate of 3,55% for *Lectopia* through the high attendance rate of lectures, but initially I could not fathom the low access rate of 10.9% for the *Wimba* session. This required a closer examination.

- advancing and consolidating design knowledge

Students from this cohort were invited to participate in a focus group discussion exploring the use of e-resources in the delivery of teaching and learning in Music Education, and their interactive engagement in virtual learning environments. During this focus group discussion many of the students declared the only prior experience of on line engagement had been through social media platforms. These platforms are dynamic and interactive and hold appeal for students. The students expressed that the design of LMS promoted at Griffith University is linear, static, and not particularly interactive. Moving the focus onto the *Wimba* virtual learning environment it was revealing to hear just how few of the students actually had grasped how to access the resource. Many spoke of the difficulties experienced trying to access *Wimba* from an off-campus location. I recall during the first week of the semester having three students arrive at my office and ask: “Where is the *Wimba* classroom? You have not advertised the location.” I naively thought that this was just the sentiment of a few students, but learned that I was wrong. My assumption and expectation of a generation whom have been exposed since birth to the Internet and hypertext to think and process information differently from previous generations was inaccurate. Advances in teaching and learning come through evolution not revolution. I realized that the students required scaffold learning to access and use the IDTs effectively to support their achievement of learning

outcomes.

- increasing individual capacity through and for innovation

Central to responding to challenges of limited teaching time, the changing student population, and the demands on the time and intellectual dynamism of academic teaching staff, is the need to increase individual capacity through and for innovative use of instructional delivery technologies. Both academic teaching staff and students need to acknowledge the need for their capacity to evolve through active engagement, participation and reflection. In other words, developing fluency in a new medium might seem to be more labor-intensive than continuing to use well-established practices, but once everybody gets on board, it opens up the process of acquiring, exchanging and using information to new levels of complexity and understanding.

## **Implications for music education**

The design-based research project explored possibilities of creating a novel learning and teaching environment, advancing and consolidating design knowledge and increasing individual capacity through and for innovation. It confirmed the pedagogical possibilities and practicalities of exploiting instructional delivery technologies to augment music education courses to be a valuable and productive way forward in addressing ongoing issues of quality and sustainability in initial teacher education. However, to achieve successful learning outcomes extensive evolutionary scaffold learning is required. The pedagogical possibilities to augment face-to-face interaction can be (re)-produced by creating opportunities for students to engage in a range of social interaction and collaborative activities, and encourage a diversity of perspectives and dynamic exchange. As the educational community continues to explore and expand these

technologies the collective knowledge of best practices will grow. Classrooms and chat rooms offer numerous pedagogical opportunities for music education through a variety of instructional delivery technologies - a technological revolution through instructional evolution.

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