



Using the Apple iPad to facilitate student-led group work and seminar presentation



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ABSTRACT

Mobile technology has become progressively more visible within the Higher Education learning environment, and is, in the author's experience, often used casually by students to support their learning. The project outlined within this paper examines the efficacy of using such technology (Apple iPad) more formally in facilitating increased levels of interaction and group cohesion within a series of tutorial sessions involving undergraduate nursing students ($n = 24$). For the purposes of the project, a tutorial group was created and facilitated in which the students undertook and fed back upon a series of specific iPad supported activities. Data was collected at the mid point and cessation of the project. The outcomes were most encouraging, and indicated that mobile computing platforms of this type may indeed help students to engage more fully with learning activities and materials, and as a corollary, increase student confidence with peer presentation and feedback.

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Introduction

The goal of contemporary nurse education must be more than the mere production of individuals who have the requisite knowledge and skills to perform effectively within a specific role; attributes such as self-direction, critical thinking and reflexivity are also required if nursing is to stand as a discipline in its own right (Rolfe, 1998; Risjord, 2010; Chinn and Kramer, 2011). A constructivist approach, which views the learner not as some “bedbound listener” (Bruner, 1960:126), but as an agent actively engaged in the construction of their own knowledge, is wholly congruent with such an aim, and it is this philosophy that therefore underpins the author's own teaching practice. In order to develop and further augment individually constructed knowledge structures – or *schemas* (Piaget, 1954), it is necessary for students to be exposed to a range of pedagogical strategies that not only present salient fact, but also facilitate a *deep* engagement (Marton and Saljo, 1976) with the subject matter.

Although methods of delivery remain in flux (Lancaster et al., 2012), the ubiquitous lecture and tutorial endure as the pre-eminent format for teaching within nurse education, providing expediency both in terms of logistics and knowledge transmission (Copeland et al., 1998; Badger and Sutherland, 2004; Brouse et al.,

2005; Di Leonardi, 2007; Exley and Dennick, 2004; Richardson, 2008). Indeed such approaches have a high degree of utility – students are ‘frontloaded’ with proposition during the lead lecture, and a deeper exploration of the topic is then facilitated within the following tutorial/seminar session. However, it has been the author's experience that without careful consideration of group learning activities within the seminar, these sessions may easily transform into a second didactic lecture, providing limited opportunity for meaningful engagement with the initially presented material.

Learning processes that involve groups of individuals coming together to solve problems are particularly well recognised as an efficacious method of developing higher level critical thinking and problem solving skills (Hicks, 1996; Flannelly and Inouye, 1998; Distler, 2007; Schmidt et al., 2009; Currie et al., 2012), yet effectively facilitating and engaging students with group activities remains challenging. Mobile technologies such as smartphones and tablet devices have taken on an increasing presence within the classroom (Melhuish and Falloon, 2010); such devices often being used by students to interact with social media in an informal manner, but could such technology be more formally employed to support learning and increase student engagement within seminar sessions?

The literature indicates (Carter, 2002; Radosevich and Kahn, 2006; Bonds-Raacke and Raacke, 2008; Derting and Cox, 2008; Lumkes, 2009; Van Oostveen et al., 2011) that multimedia technologies may be particularly effective in these situations; devices

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such as tablet Personal Computers (PC's), smartphones, and the Apple iPad allow educators to create a diverse range of learning activities that (within certain parameters) may be approached in a variety of ways by the students. However, it is not simply a case of substitution; although it may seem expedient to merely replicate traditional delivery, in order to optimise learning, transposition of tasks should be avoided (Carter, 2002). Jonassen et al. (2008) make the distinction between learning *from* and learning *with* technology, suggesting that in order to instigate meaningful learning, one must fully consider the ways in which technology can be used to actively engage the student with the learning process.

This paper describes a small project in which a mobile technology device (Apple iPad) was introduced in order to increase interactivity and group cohesion within the tutorial/seminar environment. The inception and initial implementation process will first be outlined, before a discussion is presented regarding the efficacy of the modality, including feedback from the student group.

The project

Within the Bachelor of Nursing (Adult) programme at the University of Glamorgan (now University of South Wales), 3rd year students undertake a module entitled *Sciences Applied to Nursing 2*. This module is divided into two components – life and behavioural science. Within the behavioural science element, a series of lead lectures are presented over two terms examining a number of psychosocial topics including *self awareness & active listening, the nurse-patient relationship, breaking bad news, grief and loss, and dealing with aggression*. Following each lead lecture, the students divide into three groups of approximately 25 for seminar sessions. These seminar/tutorial sessions are generally centred on a series of exercises or scenarios in which the material from the lead lecture is examined in greater detail.

The author (and module manager) submitted a successful bid for internal funding in order to utilise 8 tablet devices within these seminars. The project had a number of key aims:

- To develop student skills with regard to working collaboratively in small groups.
- To develop presentation skills amongst the students.
- To increase student conversance with nascent multimedia technologies and web 2.0 applications.
- To more effectively capture & share student generated material.

As this was a group of adult learners, there was a wide age range and degree of familiarity with mobile multimedia technologies such as the iPad. Some group members had iPads and smartphones of their own, whilst others stated that they had never even touched such devices. Indeed it was for this very reason a delivery platform requiring the minimal level of technological conversance was sought.

A number of studies have effectively employed tablet PC's (Radosevich and Kahn, 2006; Derting and Cox, 2008; Bonds-Raacke and Raacke, 2008; Lumkes, 2009) within this role for these reasons. Nevertheless, these devices now have limited availability, and have been largely superseded by tablets that provide the flexibility and accessibility of the earlier device, combined with solid-state memory, and the convenience of downloadable software services – the so called 'app stores'. A varied selection of tablet devices are offered within the contemporary IT (Information Technology) marketplace, with those utilising the *Apple iOS* or *Google Android* software architecture having the greatest prevalence (Butler, 2011). However, during the planning stage for this project (early 2012), the range of devices (and their concomitant apps) available across the Android platform was significantly limited.

Additionally, Apple employs extremely stringent quality assurance processes in which every piece of software is reviewed, and must follow strict guidance regarding content and function before being permitted to appear within the *iTunes* (Apple) app store. Conversely, any registered user may create and upload software to the *Google Play* (Android) app store, potentially resulting in said apps being unstable, or even containing malicious code that could render devices inoperable (Butler, 2011; Murphy et al., 2012). Thus, the combination of availability, ease of operation, and *robust* app ubiquity led to the selection of the Apple iPad as the delivery platform. For the duration of the project, it was decided to run two conventional tutorial groups, and one 'iPad Group', the sample ($n = 24$) being recruited through self-selection.

Project mechanics

In order to maintain parity across all tutorial groups, it was important to ensure that the themes explored within each group were broadly similar. However, a series of specific activities were designed for the project group in order to maximise the capabilities of the technology platform. Although there is a vast amount of ostensibly educational software (apps), available for the iPad, quality remains highly variable, and as other recent studies have indicated (Murray and Olcese, 2011), the author found it quite challenging to identify software that truly extended capability, rather than merely providing drill and practice within specific defined areas. Both project leader and student group evaluated a number of apps, and ultimately the following programs were utilised:

- GoodReader (PDF and MS Word document reader)
- Whiteboard HD (Whiteboard proxy)
- Apple Keynote (Presentation software similar to MS PowerPoint)
- DropBox (Cloud based file management program)
- CampusPack Wiki (Blackboard based Wiki for sharing student work)

Although it would have been ideal to provide each individual group member with an iPad, this was unfortunately beyond the scope of the project budget. Consequently, students worked together in groups of three on each device. Previous studies using tablet devices demonstrate the efficacy of 'skeleton' PowerPoint slides which individuals or groups had to annotate and feedback upon (Derting and Cox, 2008; Lumkes, 2009), and this approach (utilising Keynote as opposed to PowerPoint) was therefore used as a starting point.

However, as the student group became more conversant with the technology, a number of other activities were also introduced. These were presented as a 'menu' that students could choose from, and included listening to a podcast and recording their thoughts on an interactive whiteboard, and summarizing and critically evaluating a journal article that was stored on the device in pdf format.

For first 45 min of each seminar, the students worked in groups on their chosen activity, and the remaining time was spent with each group presenting their findings back to the class as a whole within a teacher facilitated discussion. During these short presentations, each iPad was connected to the main classroom projection system, ensuring all students could see the group work produced.

One of the author's previous concerns regarding student group work was the fact that at the end of a traditional seminar, materials produced through media such as flipchart paper or acetates was often discarded, resulting in the loss of a potentially valuable learning resource. Therefore, at the end of each 'iPad group' seminar, all student generated material was uploaded to a Wiki site within the Blackboard virtual learning environment

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