# iBus: Perceptions of the rise of mobile learning in a business degree

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Wireless mobile devices (WMD) introduced in the first year of a tertiary business education programme at a tertiary institute in Auckland gave students the opportunity to experience mobile authentic learning as part of an initiative called iBus. Students were provided course material in an interactive iBook format, encouraged to engage in collaboration through authentic activities and utilised the device's capability for a range of study related tasks. Their responses to this experience were recorded by anonymous online survey at the end of the semester. Responses were positive with high use rates recorded for students accessing course material (91% used ibooks) and lower yet positive rates (67%) for interactive use of the WMD in class. This paper reports on the initiative to date and the feedback provided by students on its impact upon their learning experience.

Keywords: iPad, business education, authentic learning, mobile learning and cognitive tools

## Introduction

The first phase of an initiative named iBus was launched in the Bachelor of Business programme at a tertiary institution in Auckland in semester one of 2014. This initiative was born from positive student feedback gained during a mobile authentic learning pilot study conducted in the programme (Oldfield & Herrington, 2012). The first phase of iBus was a requirement for all students enrolled in the first five courses of the degree to have access to an iPad. Students were responsible for acquiring their own iPad, however the departments involved provided support through the arrangement of special deals, access to technical support and a loan device scheme for those in need. Staff from the two departments involved developed their own multi-touch iBooks using iBooks Author and made these freely available to students in place of expensive textbooks in order to offset the initial cost of the iPads. The iBus initiative has three main goals, to improve the educational experience of our students, to ensure equitable access to learning resources and activities, and to cap or reduce the cost of study to students. This paper reports on the initial findings of a questionnaire conducted at the end of the first semester of iBus with the intention of uncovering the student perceptions of its effect toward improving their educational experience.

## Supporting literature behind iBus

The iBus initiative is informed by several educational theories, including the emergent theory of Mobile Authentic Learning (Oldfield & Herrington 2012, 2013).

### Mobile learning

Mobile learning (mlearning) empowers learners by enabling user generated contexts and content (Cochrane, 2011), and empowers teachers by increasing the interactivity and personalisation of their pedagogically designed material, making it more accessible to the students (McLoughlin & Lee, 2008). These 'bridging' capabilities arise from using wireless mobile devices (WMD) as a central tool in the delivery-reception-creation of course materials. A further appeal of mlearning is that WMD are generally a prominent feature of the learners' lifestyles and while it is not a "silver bullet" educational solution, it is sensible to engage through this channel (Lee & Chan, 2007).

Cochrane (2012, 2014) provides a set of six critical success factors for mobile learning that have acted as guiding principles for this initiative. Pedagogical considerations were made first, prior to the implementation of technology in the courses involved. These considerations were made based upon the lecturers' own experiences with their iPads through their involvement in a community of practice (Oldfield & Cochrane, 2011) and through the support of the technology steward who had sufficient understanding of the community and its technological needs (Wenger, White & Smith, 2009). This technology steward supported the staff with pedagogical and technological issues in conjunction with the academic and information management support services. The iPad was chosen by the programme management as the most appropriate device for the initiative based upon a number of criteria, and informed by past experimentation and institutional usage of the platform. Lecturing staff

had the freedom to choose the apps and web services they would use in the classes, although these decisions were shared and coordinated with the iBus group.

### Authentic learning

Authentic learning theory places the context or situation of learning at the centre of the pedagogy, positing, that "in order for learning to be meaningful it should be embedded in the same context that it will be used in later life" (Oldfield & Herrington, 2012). This pedagogy is widely promoted in contemporary tertiary business courses administered by the New Zealand Qualifications Authority (NZQA), which require that "programme design and delivery, and all assessments will be conducted in and for the context of a real or realistic small business" (NZQA, 2014).

Students engaged in authentic activities in one of their courses, within an ongoing simulated work environment. This simulated work environment was supported by the use of the interactive multi-touch iBooks (electronic books incorporating multi-media, animations and other interactive elements), which included background information on the company and audio interviews from simulated employees as a means of suspending the students' disbelief (Herrington, Reeves, & Oliver, 2010).

### Cognitive tools theory

Prior to the information age, things you knew were occasionally referred to as 'portable cognition' as it was knowledge that travelled constantly with you (in your mind). Today, the opportunity to create new knowledge from the easily accessible and massive information flows that surround us, shift cognition processes from inside our heads to inside our information tools, commonly hand held. The educational implications of this for teaching/learning are that the teachers/learners are often engaged in co-creation of new knowledge rather than the more traditional one way transfer of 'what is known' from teacher to learner.

Students have used their iPads and associated apps as cognitive tools (Jonassen & Reeves, 2004) to aid them in the learning process by supporting their collation, and processing of information. They used apps such as Excel and embedded calculator widgets to aid their processing of financial data. They utilised collaborative apps such as Mindmeister and Google Drive to work in teams to analyse problems and co-create solutions. The interactive iBook content that students engaged with offered them access to a range of neatly organised sources, utilising multiple media types.

### The role of tablets in education

Modern tablets, often referred to as Post PC Devices (PPDs), have only been available since 2010. However significant interest in the education sector including a growing number of institutional adoptions and pilots is driving research into their use. Murphy (2011) finds that PPDs are potentially useful in education through six typologies; Ubiquitous access to course and subject materials; Enrolment and administration; Peer-to-Peer and Peer-to-Educator collaboration; Content generation; Research/material yielding; and Productivity enhancement. He goes on to suggest that many of the implementations to date have primarily focused on the access to course material. While this is a key factor of the iBus initiative, significant effort has been made to engage with the remaining typologies by utilising the affordances of the devices to create content, to collaborate, to research information when needed and to support students in organizing themselves.

## Student usage and perceptions of the initiative

Students enrolled in the five iBus courses were invited to participate in this research by completing an electronic questionnaire. The questionnaire results were completely anonymous and a third party provided students with the link, explained the research purpose, explained that it was voluntary and allowed them to opt in or out. This questionnaire was designed to ascertain the students' perceptions of the first phase of the initiative and the results were subsequently analysed using a range of descriptive statistical techniques.

A total of 216 unique students were enrolled in the five courses involved in phase one of the iBus initiative. The questionnaire was administered by a third party during class time in the final week of the semester, and was completed by 74 students.

The iBus courses include students from a variety of backgrounds including domestic school leavers, as well as mature students who have worked for a number of years prior to study. A number of international students from

wide range of countries are also present. Despite this diversity, smart devices are one thing that most have in common, as 84% of all respondents had prior experience with a smart device, such as a smartphone or tablet.

Over 80% of respondents made use of their iPads to view course information and materials, according to Murphy (2011) this is the most common use (or starting point) of PPDs in education. This was strongly reflected by their choice of apps, iBooks (96%) were used by the majority of students, iTunes U (81%) and Youtube (68%) were also used for study purposes by the majority of students. More than two thirds of the students made use of the iPad for communication and over half of students used it for in-class activities, note taking and assessments. Collaborative productivity apps such as Google Drive (89%), Microsoft Word (68%), Microsoft Excel (60%) and Mindmeister (54%) were used by the majority of students.

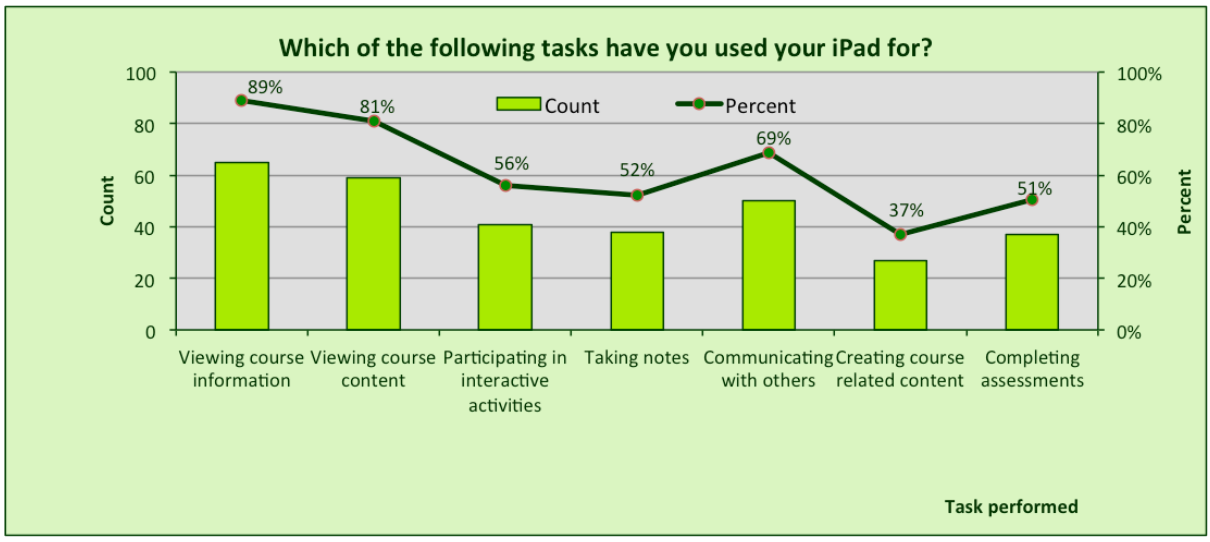


**Figure 1: Tasks performed by students using their iPads**

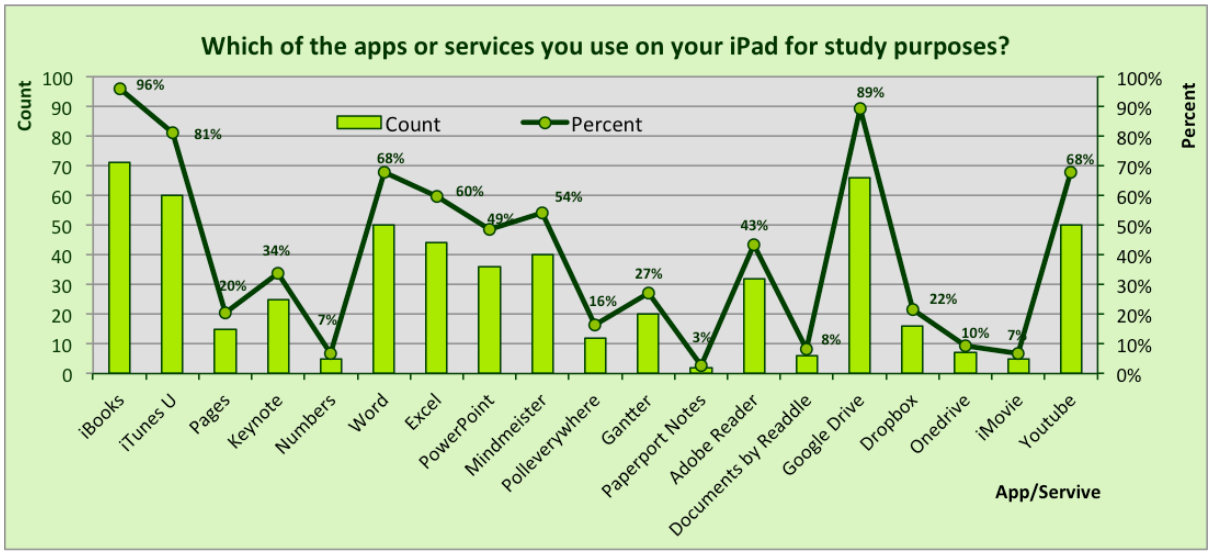


**Figure 2: iPad apps utilised by students for study purposes**

The initial respondent perceptions of iBus are mostly positive (see Figure 3), with the majority of students (58%) believing that the iPad has enhanced their learning experience. The majority of students (61%) also feel that more courses should require the use of iPads, while only 24% feel that the iPad should not be a requirement. It is of note that a significant number of students were without strong feelings about the statements posed. This was particularly evident when considering the potential for distraction that the iPad posed (36%) and the financial justification of the free iBooks to offset the cost of the iPad (30%). At the time of the questionnaire the

students had not been briefed about the future of iBus, which may have caused some students to be unsure. As iBus is rolled out to more of the programme in the future it would be useful to revisit the perceptions of this group of students and measure any change as they experience it in more courses.

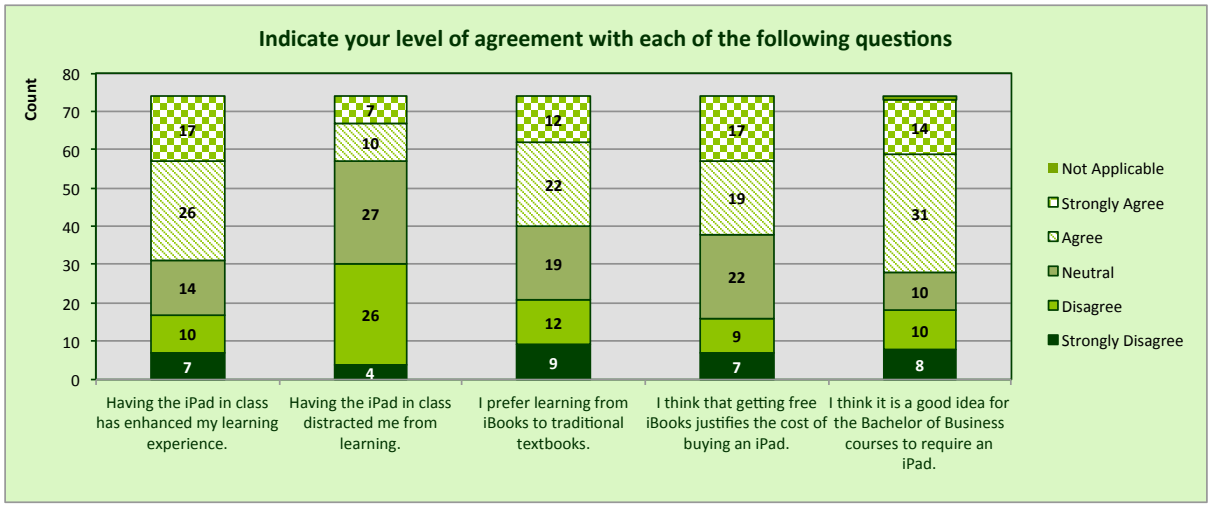


**Figure 3: Student perspectives of the iPad's impact on their learning experience**

Detailed statistics of the iBus initiative are available on request.

## Conclusion and future directions

To date, the iBus initiative has been viewed internally as a success. The students have made use of their iPads for a variety of tasks, utilising a range of applications. The questionnaire results indicate that the majority of students are happy with the initiative and believe it is a good idea. Following on from the generally positive feedback from students on the first phase of iBus, the initiative will be rolled out to other courses in the degree. All courses at level 5 (first year) will require the use of iPads in semester 2 of 2014. This requirement will be extended to level 6 in semester 1 of 2015 and to level 7 in semester 2 of 2015 in order to provide an ongoing experience to the group of students involved in phase one throughout their degree. Further evaluation of the impact of iBus and its three goals is planned at various stages of the initiative roll out.

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**Please cite as:** Oldfield, J., Dassanavake, W., & Kearns, N. (2014). iBus: Perceptions of the rise of mobile learning in a business degree. In B. Hegarty, J. McDonald, & S.-K. Loke (Eds.), *Rhetoric and Reality: Critical perspectives on educational technology. Proceedings ascilite Dunedin 2014* (pp. 620-624).

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