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Abstract

The benefits of using mobile technology in an EFL classroom have been widely researched (Warschauer & Meskill, 2000; Meurant, 2010; Warschauer, 2011). However, due to significant developments in technology over the past decade, especially the widespread adoption of tablet devices, institutions are increasingly incorporating them into their programs. There is a need to explore how these technologies can be introduced in a systematic way in order to create effective multimodal learning environments. In the autumn of 2013, the English Language Institute (ELI) at Kanda University of International Studies (KUIS) in Chiba, Japan began the process of formal integration of mobile technology into the general curriculum for incoming freshmen. All incoming students were required to obtain iPads for use in their core courses. Teaching staff were supplied with the devices by the institution. Familiarity with the technology varied widely among the faculty, so the Computer Assisted Language Learning (CALL) research group was tasked with aiding the smooth integration of the technology into the multimodal curricula through an ongoing process of training and development. This paper will discuss the rollout of mobile technology at KUIS and how the device has been integrated to date by the CALL group. It aims to offer insight into the benefits and challenges for institutions and businesses looking at incorporating new mobile technologies into their education and work environments.

Background

KUIS was established in 1987 as a private language university in Chiba, Japan. It has around 4000 undergraduate students enrolled at present across four distinct departments:

- English
- Asian Languages (primarily Chinese, Korean, Thai, Indonesian, Vietnamese)

- Spanish & Portuguese
- International Studies

The largest department at KUIS is the English Department, which made it a natural choice for the initial introduction of the new program.

There are over 70 foreign faculty members in the English Department engaged in institutional research projects across a number of research groups within the ELI at KUIS. The Computer Assisted Language Learning (CALL) group was tasked with introducing the new technology into all facets of the ELI in 2014. The move was not unprecedented. In the year 2000 ten classrooms were set up as blended learning spaces equipped with Wi-Fi and anywhere between 15-30 laptops available for student/classroom use. In 2011 an iPad cart containing 30 iPads available for students to use was introduced. Instructors would sign out the cart for a class via the online booking system, and the internet could then be accessed via Wi-Fi hotspots in a select number of classrooms. Access was, unfortunately, limited to instructors teaching lessons in those rooms, and only one cart was available. However, results were positive, and paved the way for a larger trial. In 2013 iPads were trialled in 6 classes of advanced tier Freshman English - comprising approximately 120 students. By this point, significant improvements to the campus network meant that Wi-Fi could be accessed across approximately 90% of the campus. In 2014, the program was expanded, and CALL was tasked with the rollout of iPads for all instructors and all incoming freshmen.

Literature Review

E-learning is not a new concept, and has been a trend in classrooms and education for the better part of a decade. There has, to date, been considerable research conducted on the use and benefits of mobile computing, including laptops, mobile phones, and netbooks in

language education (Warschauer, 2011). There are, of course, advantages and disadvantages and, while it is known that computer technologies are not a "panacea for language learning" (Warschauer & Meskill, 2000, p. 303), mobile technology use in education is something that cannot be ignored as mobile learning and the use of mobile devices become increasingly entrenched into daily life. Their wide scale acceptance has made them much more accessible than traditional classroom computers. Furthermore, "tablets like the iPad will make it second nature to not just facilitate but actually make effective pedagogical use of ubiquitous learning" (Garay, 2010). Muerant (2010) described the iPad as an all-encompassing multimedia tool that, with a sufficient Wi-Fi connection, can access the Internet immediately; it does not need to be booted up and allows users to access "learning content wherever they are, and whenever they want" (p.230). With the use of tablet devices there is no need for dedicated learning spaces (Murphy, 2011). Students and teachers can maximize their teaching/learning potential through the use of mobile devices in a multimodal learning environment that extends beyond the traditional four walls of a classroom and well past the allotted lesson time. Ideally, it would become a tool facilitating self access learning and learner autonomy.

The choice to use mobile devices in all freshman classes at KUIS in 2014 seemed a logical progression to take for a variety of reasons including: past research conducted at KUIS (Brown et al, 2012), the fact that you can use them anywhere and at any time, the fact that students (and many teachers) are digital natives, and the availability of a wide range of learner and teacher applications. Mobile devices are paper free, media rich, collaborative, equally opportune, and affordable. iPads were chosen specifically as iPhones are extremely popular in Japan, therefore mitigating what might otherwise be a fairly steep learning curve. Along with South Korea, Japan spends the most money per capita on iOS apps (Bischoff, 2014). Students are familiar with iPads and they are also more widely accepted amongst

teachers. In 2013 it was announced by Apple that iTunes U content downloads had topped one billion. Over 75,000 educational apps were then available for iOS devices on the App Store (CUPERTINO, California - February 28, 2013). Then in 2014 Apple announced it had sold more than 225 million iPads in total. The company also revealed that the App store now has over 675,00 optimised tablet apps. Furthermore, over 7 million iPads to date have been sold to US educational institutes alone (Apple Special Event : Tim Cook, California - October 16, 2014). With all the past research and trials conducted on the use of iPads and mobile devices in education the next step was to work out how these devices could best be distributed and integrated into existing programs, and how those programs could best take advantage of the new technology.

Distribution

Many issues were raised concerning the distribution of iPads. Some of the more pressing considerations included ownership, costs, and the availability of applications and services. The two primary sticking points were to do with ownership, namely whether it would be better to have institutionally owned class sets, or individual ownership. After much consideration, KUIS decided upon individual ownership for students and institutional ownership for the teachers. The reason that individual ownership was adopted for students was that it blurred the line between educational and personal spaces, it was less burdensome on the IT department, and it gave a sense of ownership to the students. This was no longer a 'classroom device' used only to complete tasks in a lesson sequence. It was a tool by which they could consume media content, and interact with their friends and the world at large, but one that also put learning at their fingertips. Accessing material from a lesson, or an application to help them study is as simple as watching a YouTube video, or browsing the web, and all on one device.

One of the major negatives with this was that teachers were now faced with the task of ensuring that this extra cost incurred by the students appeared fair and reasonable. Essentially teachers would now be obliged to use iPads in the classroom, which could be difficult for some who were not familiar with the using the device, or who were not initially interested in using technology in their lessons. To overcome this issue the CALL group, in conjunction with other research departments in the ELI, were tasked with conducting workshops on how to use iPads and also providing materials, specifically iBooks, that could be adapted to suit teachers' needs. Training sessions were open to all faculty, and covered a range of skill levels.

In 2015 all teachers that are part of the ELI and who teach freshman students are required to use the iPads in class. A curriculum overhaul is still currently in progress to incorporate the use of iPads in the classroom.

Infrastructure & Academic choices

The infrastructure and academic considerations made by KUIS, and which should be considered by all educational institutions and businesses considering such an investment in technology, were adapted from Howard Chan's 2011 list on *"Considerations before deploying iPads and iPods"*, and tailored to suit specific institutional paradigms.

Infrastructure considerations

For the successful introduction of any technology into an education environment or business setting many things need to be taken into consideration with regard to infrastructure; the most crucial being access to the internet. There needs to be a strong and stable enough internet connection with ample wireless bandwidth to handle the network traffic. However, in granting access to the internet, policies need to be created to police who

has access to the network and how they get access to the network. For example, will there be restrictions placed on what people can browse? Furthermore, decisions need to be made regarding the management of the devices. What support will be available to manage and assist the users? Who is in charge of the iPads; teachers, students, or central management? Will there be IT staff that are trained in iPad support? Ownership of the iPad is another important infrastructure decision that needs to be assessed. Factors need to be taken into consideration regarding how they will be purchased: Will they be purchased as part of Apple's Volume Purchasing Program? Can students use their own tablet if they already have one? If the institution is to purchase them can students take them home? How often will they be renewed if the institution purchases them, and do you choose to have one iPad per student, or a shared mobile cart system?

After all these infrastructure choices were taken into consideration by the University it was decided that students would be required to purchase their own iPads as part of their enrollment fee. The cost was made very clear and every incoming freshman student in 2014 was required to purchase an iPad if they didn't already have one. Other tablet devices were deemed not suitable for use in the classroom on the basis that it would be much more difficult to ensure that all students had access to the same apps and materials if multiple devices and operating systems were being used. The IT department was to bulk purchase the iPad and install all of the basic applications that the students would need. Students could go to the IT department for support if they were having problems with their iPad. Upon commencing at the university students were required to pick up their iPads at a designated time from the IT department for their own use. The University spent years installing upgrades to the network, and by 2014 Wi-Fi could be accessed almost everywhere on campus. There was one central connection with one password that students and teachers had access to. Guests coming to campus could get a guest password and access the network

that way.

Academic considerations

Together with infrastructure considerations, academic choices are equally as important. It's far too easy for institutions with available funding to jump the gun and rollout new technology, particularly when it is becoming increasingly common for them to turn to technological investment as a means of attracting more students. However, if that technology isn't going to align with the current curriculum, and you're merely going to scan the current paper model and transfer it onto the iPad, then it is probably not the best academic choice for your institution. There needs to be clear guidelines on professional development and accountability, and there needs to be information available on education and technology programs and tools for iOS. There should be shared planning and collaboration on the best uses of the iPad in practice and a clear curriculum vision for iPads that should align with the school's model. Educational applications also need to be taken into account. Is there enough currently available to support your curriculum and are there enough content creation tools to replace your current method? Who will be responsible for ensuring that instructors and learners are up to date on best practice, and use the devices to their full potential? Another important consideration is how the effectiveness of using the iPads will be assessed. A rigorous ongoing research and evaluation system is recommended.

Academic choices were the most taxing to address at Kanda as the current curriculum was undergoing an overhaul, and being reorganised on a multiliteracies framework with a focus on multimodal learning environments. A group of teachers were selected to work on creating content for the students that would meet this new vision and be able to be delivered on the iPad. Much research was conducted and it was decided that the university would follow an A.I.M approach: awareness, interaction, and multiliteracies method.

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Use of the iPad was to be incorporated using this model and content was created. The teachers who originally created the content had access to Apple computers so that they could create iBook templates fitting in with the school's curriculum. These templates were available for all teachers to use and adapt to their own needs. The teachers who created the content following the curriculum guidelines were also available to assist teachers in their professional development as well as those who needed assistance with using iBooks and creating content. All members of the CALL committee were available for professional development assistance and also conducted workshops for teachers that wanted to know more about their iPads. Currently all teachers have easy access to Apple computers in order to create their own content for use on the iPad. The curriculum is still being tweaked and, as in most educational institutions, will be ever changing to meet the school's visions and new technological requirements. Currently many teachers are also conducting further research into the effectiveness of the iPads in practice.

Conclusion

Kanda has successfully introduced iPads into the University with careful planning and research. A rigorous systematic trial, evaluation, and education program was key, with careful consideration of the distribution, infrastructure, and academic matters relevant to the organisation. This process is ongoing, as it must be to continually evaluate the program to ensure best practice. Obviously more research will need to be conducted in the future as technology changes at such a rapid pace. It's important for institutions and businesses to stay current and informed, and to continually evaluate their programs to ensure that that use of the technology is as effective at achieving outcomes as possible. Technology is, after all, merely a tool to support and assist users to meet their objectives. As such, it is essential that technological investment is undertaken to serve the needs of institutional stakeholders.

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