

原 著

iPads in the Classroom: A Pilot Project

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<Abstract>

When Apple's iPad tablet was released a few years ago, it caused a stir, not only in the computer industry, but also in the field of education. Teachers with an interest in technology immediately saw the possibilities for ways these devices could be used to introduce media into the classroom. At Seinan Jo Gakuin University's English Department, a pilot study was begun in 2012 on how iPads could be implemented into English communication classes. A class set of twelve iPads was purchased, and these have been used in classes for a variety of learning purposes. This article reports on how these were introduced, what they have been used for, and the issues that have been encountered in the first semester of their use.

Keywords : iPad, tablet computer, e-learning, student-centered learning

Introduction

One of the greatest hurdles that language teachers face is managing the division of time in the classroom. Tasks such as classroom instruction or giving explanations are reasonably self-regulating, but where organization becomes difficult is in how to allocate face-to-face time with individual students or small groups. Even with a small class, in a full 90-minute university period, averaging it out provides each student with just a few minutes of focused teacher time. With that teacher being, in all likelihood, the L2 language model for the class, those few minutes become increasingly valuable. Obviously, the weaker students require longer amounts of teacher time as their needs are the greatest, but this can easily end up being unfair to the more capable students who have, through ability or personal initiative, made the bigger

commitment to L2 fluency.

There are many strategies that experienced teachers employ to get around this problem, such as working in groups or assigning stronger students to assist weaker ones, and these are partially effective. Yet probably all teachers feel as I do—that at the end of a class, they are well aware that their time has been spread too thinly. Technology has, to some extent, assisted with this, as students can be engaged in study activities while the teacher is involved elsewhere. Computers and the Internet allow students to work on puzzles, quizzes, and other activities—provided, of course, that the equipment is available in the study area. DVDs, videos, CDs, and other media have been staple components of the teacher toolkit for a long time. However, while they are useful for providing authentic content for learners, their weakness lies in the fact that they rely on bulk

delivery—all the students must be watching or listening to the same material at the same time. On-demand systems are available, but they are prohibitively expensive, and they rely on a specific space and equipment being available to the teacher at a specific time—something that is not always possible, and which may impose its own restrictions on the learning situation.

Introducing the iPad

There are a number of options still available to the teacher for introducing individualized technology into the classroom. For voice recording or listening to materials, IC recorders have not only become more powerful, but are becoming cheaper and cheaper. Portable DVD players are likewise becoming more affordable. Digital cameras and video camcorders are readily available in schools, and for presentations, a laptop PC and portable projector work fine. The problem with these solutions is that they all require dedicated equipment, which is acceptable if the teacher is working from the same room all the time, and the room has storage facilities for equipment and materials. That, however, is the exception rather than the norm in most universities, and this leaves the only option available being to transport the equipment back and forth between classes.

Tablet computers, such as Apple's iPad, to a large degree solve this problem. One iPad can be used for almost any of the purposes above. It can be used to take photos or shoot video, and in addition can edit or utilize any of these media. It can store and playback both audio and video—either material that has been recorded with the device, or uploaded to it from the base computer. It can be used to prepare and show presentations, and with an Internet Wi-Fi connection, can be used for research purposes as well. This only scratches the surface of what these devices can be used for in the classroom, and a discussion of these capabilities will be

developed further later in this paper.

The other advantage of tablets is that most students are already familiar with their use. Most of the tablet operating systems currently available function in a similar way to smartphones, such as Apple's iPhone or others that run on the Android operating system. With the majority of students now using smartphones, it is no great leap for them to begin using a larger-scale tablet device. This of course begs the question: If the students already have smartphones, are separate tablets even necessary? Many of the functions described above can be performed on these phones, but there are two issues to consider. One is obviously the smaller form factor. While taking photos or recording and listening to audio is no problem, sharing tasks on the small screen, writing and reviewing material, or giving presentations is a different matter. The bigger screen area is definitely needed. The other issue is conflict of function. A smartphone's main purpose is as a personal communication device, and this is obviously at odds with using a tablet for learning. For class use, a dedicated device is going to serve the needs of both the learner and the class better.

We would also need to consider the drawbacks of going in the opposite direction—having a set of laptop computers for classroom use. Certainly this is an option, particularly with some of the ultra-thin models available these days. But again we come up against the limitations when compared with tablets, for while laptops have much of the same functionality, they just don't have the range of software applications (or apps) that have been developed for educational use on tablets.

The Seinan iPad Project

Many schools in the U.S. have adopted a 'one student, one iPad' approach to integrating tablets into classrooms, and this is obviously the optimum situation. Japan has yet to embrace

similar large-scale applications of this technology in schools, so any such initiatives have had to be localized, with individual teachers setting up their own projects. This year at Seinan Jo Gakuin University's Department of English, we have begun a small-scale project by purchasing an initial set of twelve Apple iPads for use in English classes. So far these have only been used by the author, but they are available for other teachers to use, and plans are underway to provide orientation sessions for them. Currently, they are being utilized by students in communication classes, seminars, media classes, and for independent study. To date, little in the way of ancillary equipment has been purchased, apart from power cables, headphones, charging racks, and protective sleeves. We also have an Apple Airport Extreme Base Station to provide Wi-Fi access in the classrooms, as the university does not yet have this service available, and an Apple TV so that all iPads can connect to the projector seamlessly.

Usage in the Classroom

One of the main objectives in introducing these iPads has been that they should become an integrated part of the classes they are being used for. Rather than having the curriculum or programme revolve around their usage, they are being introduced into current classes as ancillary support for what we are already doing. Following are some of the activities they are being used for, along with the software that has been installed for these purposes.

Research in Real Time

Often, situations arise in classes where the students need to look for information to answer questions they have, or to complete assignments. In most cases, the fastest and most encompassing option is the Internet. During class, there are a few options in such cases—the students can use their small smartphones, they can be excused from class to go to the computer room, or it can be relegated to a homework

task. With the iPads and a Wi-Fi connection, the students can conduct research on the fly, with the advantage of having a larger screen to view on, and the option to collaborate with a partner. In classes, setting research tasks in small groups has resulted in some enthusiastic and wide ranging discussions, as students discover information related to the task, relay it to other students, and discuss the results.

Delivery of Audiovisual Materials

To date, this has been one of the most successful applications of the tablets. All of our classes use various media—CDs, video, or photographs—that are provided with the textbooks. As all the students and the university have purchased the materials, plus they are being used in a closed environment, the publishers have allowed us to copy these onto the iPads. This has made a huge difference in the way classes are run. Before, for listening or video tasks, all the students would have to listen or watch at the same time as other students. With the iPads, they are able to listen at their own pace, review as many times as they need, and stop/start/rewind as often as they like. Also, because they are using earphones (which they bring to class, as everyone has their own preferences), the sound quality is better. This has led to a marked increase in comprehension, and most students score much higher on associated activities. This also allows the teacher to move around the class and help students in need, rather than being tethered to the front of the classroom to operate the equipment.

Interviewing Students

A popular activity in communication classes is having students interview each other. As a class or in groups, students formulate a series of questions on a topic, and then interview other students. The problems with this are that it is difficult for the interviewers to record the answers unless they write abbreviated notes, in which case errors can be made and context

can be lost. In addition, the interviewees have no way to evaluate their answers, as their focus is entirely on responding to the question. Using the video function of the iPads, students can record their interviews, and immediately review them. This allows them to record the responses at their leisure, and get a fuller understanding of what was said. For those being interviewed, they can look objectively at their responses, which not only helps them to evaluate themselves, but also increases their confidence in answering in English. As a follow-up activity, these interviews can be shared with other students for either review purposes or as a note-taking or analysis activity.

Creating and Delivering Presentations

One of the strengths of Apple's iOS operating system is that it uses similar methods for operating software, no matter what the task that is being performed. Therefore, once students become familiar with the general functions and controls, instruction in the use of other applications is usually quick, and both teacher and students can focus on the tasks at hand. Consequently, our students soon became very adept at using Apple's Keynote application for creating and giving presentations. In classes, students either worked independently or in pairs to research and collate material, write the presentation text, create the presentation, practice with the teacher and modify where appropriate, then give the presentation. Presentations were either given in small groups or to the class. In both cases, using just the iPad's screen to present was sufficient, or we had the option to connect them to a projector. What we found was that the presentations themselves became noticeably better. In a normal class, when the students are assigned a presentation to give, they go away and produce a PowerPoint presentation by themselves. In all cases, the PowerPoint is given major priority, followed by the script, with the actual dynamics of the presentation itself being given scant attention. Consequently, while what is happening

on screen is visually strong, their voice, intonation, posture, and delivery style is universally weak. However, using Keynote on the iPads, the students gave much more attention to the delivery, and this showed in both their use of voice and their confidence, and in increased depth to the content of the actual presentations.

Structured Lessons

There were times when we wanted to give the lessons on the iPads as a complete package, rather than using them for supplementary activities. In those cases, two applications were used. The first was Apple's iBooks Author, which is used to create digital textbooks. This software is still in its early development, so its functionality is somewhat limited. However, it can be used to create visually stunning digital books with full multimedia content and reasonable quiz functionality. This was used in a number of classes to create supplementary material to the textbook. The students enjoyed using the material, but there was no way to gather the data from the quizzes they completed.

More feature-rich was Nearpod. This software is web-based, and all content is created on the site, and then delivered to the iPad apps, Nearpod Teacher and Nearpod Student. The content itself consists of text or image slides, video or audio (up to 3 minutes), multiple-choice quizzes, surveys, and drawing pages (where students can draw or write directly onto the screen). At the beginning of a class, the teacher selects a lesson that has already been created on the website. This downloads to the teacher's iPad, and is assigned a code number. The students open their Nearpod apps, and input the code number, whereupon the lesson downloads to their devices. They then log in, and their names appear on the teacher's device. The teacher can then select which content to deliver to the students. The students work on the content, and in the case of interactive elements such as quizzes, polls, and drawings, the results show on the teacher's iPad. Once all students have completed an activity, the results can be

shared, and in the case of quizzes, students can review their answers. Although still in beta format, the software generally works well. On the occasions it crashes, once it is restarted, it takes the students back to the current location, so nothing is lost. After the lesson, the teacher is able to review and download the results from the website, which is useful for record-keeping purposes.

Skill Building

For building the basic skills in students, the iPad offers an ideal environment in which to learn, as there are a large number of apps available for just this purpose. Often these apps are very visually appealing, and they offer the material in very compelling ways. Of the large number of such apps on the market, we have found the following particularly useful.

- *Sounds – The Pronunciation App (Macmillan Education)*: This app gives practice in the use of the phonetic alphabet, and is particularly useful for students studying in pronunciation classes, such as our Practical English Phonetics. As well as teaching the sounds of each symbol, it offers practice activities and quizzes, and a dictionary of items in both British and American English.
- *Grammar Up (Eknath Kadam)*: For students wishing to check their understanding of English grammar, this app offers practical exercises in the use of different grammar items. Each listing begins with an explanation of the grammar item, followed by a bank of activities. The students can determine how many items they wish to study before proceeding.

Games and Activities

Studying should not only be educational, but motivating as well—and even fun! Therefore, during interludes in class, or when work is completed, it is useful to have a bank of activity apps that keep the students engaged while helping them learn. There are literally thousands

available, and we have used the following:

- *Guess ‘em (Game Weaver)*: This is based on the classic “Guess Who” board game, and is useful for teaching how to describe people.
- *Boggle (Electronic Arts)*: This is a word-forming game. Students shake the iPad, which causes a set of dice to tumble. Each device has letters on it, and the students combine these to form words. They have 3 minutes to create as many words as possible.
- *Comic Life (plasq LLC)*: Students use the camera to take photos, which they then use to create a comic page, complete with titles and captions. A good way to report in a fun way on an event.

Teacher Management Resources

Aside from the way iPads can be used for classes, they are also particularly useful for teachers as a way to manage both student data and class content. Their portability and large memory makes it easy for teachers to capture, store, and access data, and this data is easily encrypted and backed up to the master computer or to cloud storage. Following are some examples of applications that are useful:

- *Attendance 2 (David M. Reed)*: This app does just what it says—records attendance. However, its functionality goes far beyond that simple task, as teachers can access student photos, number of times absent or late, or even excused. It can keep notes on individual students or of classes, and it can also be used to easily email students with attendance details or general information. TeacherKit offers similar functionality in a more graphical format.
- *Class Dojo (Class Twist Inc.)*: This is a great app for recording students’ classroom behaviours. You can award points for positive behaviours, such as group work, using English, responding, etc., or subtract points for such things as

lateness, using Japanese, and so on. Students can log on to the website to view their points.

- *Three Ring*: Keeping track of student submissions is always difficult, but this student portfolio app makes it much easier. Teachers simply record items of work with their iPad (or iPhone), and they are stored on the app's website. The items can be photographs of student work, or video or audio recordings. To access any student's portfolio, the teacher simply logs onto the Three Ring website and searches for the student's name, whereupon a full listing of that student's work appears.

Classroom Performance

As a teacher in the classroom, I am primarily concerned with three things: student performance on task, student motivation to learn, and task output. For each student, my goal in every class is that they worked to the best of their abilities on the tasks that were set, that they enjoyed the learning process and were committed to continuing it, and that at the end of the class they had something concrete to show for it. After each class, I evaluate the lesson in those terms.

Introducing new technology into a class is always risky. It can either detract from the class, or simply take it over. Students can falter as they try to come to terms with it, or it can just prove too much for them. Worst of all, it can become the focus of the class, and my own experiences of classes using computers and the Internet have made me very wary. Even when technology is introduced, the effects can often be short-lived. After an initial wave of enthusiasm, students quickly tire of it, and new resources have to be found.

For the teacher, the gains have to be balanced against the work required to create and maintain lessons associated with that technology. In many cases, it often becomes easier and more efficient to simply revert to

old systems. Teacher time is limited, and experienced teachers have suffered through many waves of technology, only to see them falter. In addition, teachers who readily adopt new technology are often the outsiders, and get little support from more traditional staff. Therefore, before embracing anything new, the benefits have to be balanced.

The Effectiveness of the iPads

Our iPads were introduced into classes near the beginning of the first semester, and the students have used them in both English communications classes and seminars on a regular basis since that time. As stated before, only the author is currently using them with classes, so these observations come from just one source.

Usability

A primary concern with any technology is in how capable the students are of using it. If it proves too difficult or complicated, students give up easily and too much teacher time is used with assisting them. Thankfully, this hasn't been the case with the iPads. Not only are students more tech-savvy these days, but also, as stated earlier, they are already adept at using smartphones, so using the iPads has simply been the next step for them. In all cases, from basic instruction on how to use the operating system, through to use of any of the software, instruction has been minimal, and what they don't know, in most cases they can work out for themselves or help one another. Case in point: when the presentation software, Keynote, was first introduced to two classes, a 3-minute walk through of the basic functions on the projector was sufficient to get most students going, and by the end of the period, most of the students had worked out the more complicated functions, such as transitions or animations, themselves. Consequently, this has barely been an issue.

Motivation

Naturally enough, when the devices were first introduced, the students were ecstatic and used them enthusiastically. And while this initial reaction has cooled a little, students have still taken to them and have become more confident in their use. Every time they come out in class, they pick them up very happily and set to work, so motivation has not been an issue. Also, because it is very easy to add new apps as required, they are never totally sure what they will be doing in any class, and this anticipation has definitely held their interest.

Usefulness

Any application or device is only as good as its ability to achieve results, so monitoring this aspect of the project has been critical. So far, this has not been an issue. When students use the video and audio tracks for their textbook studies, they are achieving better results because they are listening more closely and have the option to replay when needed. Certainly, comprehension is well up on regular classes. For presentations, the students are putting more thought into the content, and more effort into the delivery, which has resulted in presentations that are more interesting to watch and more accessible by other students. In fact, after a session of presentations, many students borrow other students' iPads to view their presentations again. Research has been done with greater thoroughness, and the students share results with ease. One example of this has been in a Comparative Culture course where the students were given a topic to do research on about the target country, and they could pull up photos and text in real time and discuss them as a group, adding more information to the discussion as they probed more deeply.

Project Management

Managing the project is one area where there are still some weaknesses. None of the issues that have been encountered are insurmountable, but they do need to be dealt with before the project can be widened in scope. The long-term goals would be that:

- All students would have their own tablet
- The tablets would be used for most classes
- More teachers would be involved
- Customised content would be available for students

Apps and accounts

This area has been the biggest headache. To install applications, an iTunes account is needed. Such an account requires a credit card, which this school does not have. Nor will they reimburse purchases made on a private credit card. Therefore, currently all the iPads are configured to the author's personal account, which is far from ideal. Not only does this cause problems with privacy, but it wanders into a grey area of suitable usage. All the apps currently being used are purchased for personal use, not for classroom delivery. As Angel (2011) states, in contrast to other countries, "the majority of universities in Japan are currently not prepared to give instructors full support in maximizing the potential of tablet computers for ESL education."

Apple provides an excellent piece of software for configuring multiple iPads called the Apple Configurator. With this, apps can be installed or removed, and multiple iPads can be set up for unique class settings. However, to use this software, a school needs to be part of the Volume Licensing Programme. Until very recently, this has not been available in Japan. Now, with its availability, hopefully a more workable system can be found that will make maintaining this school set of iPads a more feasible solution.

Conclusion

While still in its infancy, this pilot project has so far been a success. The students have responded positively to the introduction of the iPads, and the results in the classrooms have been tangible and lasting. There have been no major issues with implementation and training, apart from the problems with accounts and installing apps as noted above. For the teacher also, the process has been remarkably smooth and positive.

It is obvious that this is just the beginning of a move to more widespread implementation. As tablets become more powerful, versatile, and cheaper, and more software is developed that addresses the needs of specific study courses, increasing numbers of schools will introduce them. Students will then have a more portable solution to their school needs. They will be able to carry all their study material in one device, and they will be able to study online any place, any time. They will be able to communicate more, share information, collaborate, and submit assignments. And if their device fails, everything will be backed up.

Schools also will be free from the burden of having to provide computer facilities that are expensive, require constant maintenance, and date quickly. Instead, the emphasis will shift to providing secure and stable access portals for students, and to customizing and delivering content that addresses their individual needs.

Resources

iPad Applications

- Attendance 2—David Reed
- Boggle—Electronic Arts
- Class Dojo—Class Twist
- Comic Life—plasq LLC
- Grammar Up—Eknath Kadam
- Guess 'em—Game Weaver
- iBooks Author—Apple computer
- Keynote—Apple computer
- Nearpod (teacher and student applications),
Nearpod website: <http://nearpod.com>
- Sounds—Macmillan Education
- TeacherKit—ITWorx
- Three Ring—Three Ring

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試験的プロジェクトとしてのiPadの授業への導入

マルコム・スワンソン

<概要>

数年前にアップル社のiPadタブレットが発売されて、コンピュータ業界のみならず教育の分野においても大きな変化を引き起こした。テクノロジーに関心のある教員はすぐさま、これを活用して授業にメディアを導入する可能性を探った。西南女学院大学英語学科においては、iPadをいかに英語コミュニケーションの授業に導入するかについての試験的な研究を2012年に開始した。1クラス分となる12台のiPadを購入し、学習目的の異なる様々な授業で活用した。本論は、iPadの導入の方法、利用目的、前期の利用で生じた問題について報告するものである。

キーワード：iPad、タブレットコンピュータ、e-ラーニング、学生参加型授業