



We are Mobile Magicians but Digital Refugees: Helping Prospective English Teachers Explore Technology and Ubiquitous Learning

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Abstract

This article explores a ‘Teaching with Technology’ course taught at Nanzan University, Japan. Although our students are considered to be ‘digital natives’ many of them do not know how to use technology effectively in a teaching environment. Students ($n=12$) in this elective course were asked to consider their thoughts on technology in general, and how they would incorporate technology into English courses in Japan. The students gave presentations on using technology to support learners at Japanese junior high and senior high schools. Five main data collection sources were used: 1) a questionnaire on attitudes to technology; 2) videos of students’ presentations; 3) reflective material generated throughout the course; 4) end-of-course peer interviews; and 5) end-of-course self-reflection reports. These five main data sources were analysed using a grounded theory approach. The article examines the students’ thoughts on educational technology, future trends in education, ubiquitous technology, and ubiquitous learning.

1 Introduction

Technology encompasses all of us and this has a significant impact on how teachers approach pedagogy in a modern world. Would-be teachers who are taking teaching-related courses at the university are coming to terms with an ever-shifting world. It is the responsibility of their teachers to furnish them with the skills that they will need in modern teaching scenarios. This article examines the journey of one group of students who elected to take a ‘Teaching with Technology’ (TWT) course at a private Japanese university. Throughout the course, the students were asked to consider the impact of technology on their lives and how they would utilise technology when teaching English at Japanese junior high and senior high schools. At several stages throughout the 15-week course, the students were asked to explore the impact of technology on teachers and students. This culminated in presentations on how they would utilise technology to support learners at Japanese junior and senior high schools. Data were gathered through a questionnaire on attitudes to technology, presentation analysis, reflective course material, peer interviews, and self-reflection reports. The title for this article came from one of my TWT students who confessed that that he and his peers were “mobile magicians but digital refugees”. He explained that, although he was comfortable using his smartphone, he was less confident using other forms of technology, making him in his own words a “digital refugee”. The article highlights the issues that students find important when considering how to incorporate technology into a traditional teaching setting.

2 Literature review

Technology has dramatically altered the educational terrain over the past two decades. The Internet, smartphones, tablets, portable computers, and a whole host of other technologies have created a multitude of possibilities and problems for teachers and students. Computer assisted language learning (CALL), Technology enhanced language learning (TELL) and Mobile assisted language learning (MALL) are all pedagogical spheres which have vied for the attention of technologically savvy educational practitioners. Many researchers have studied the benefits of technology to help students learn (Kim, 2011; Stockwell, 2010; Thornton & Houser, 2002). Emerging technologies have created challenges for educational practitioners who wish to utilise them to help their students (see Stockwell, 2014). In addition, some academics are trying to fight against, or actively ignoring, new technological developments (The Economist, 2013).

Japanese university students, although adept at using their mobile phones, are less than expert at using traditional forms of technology such as PCs, and especially software such as Excel and Microsoft Word (Cripps, 2014). This situation, however, is not exclusive to Japan. In Australia, Cameron (2005) noted that many first-year students at an Australian university were not exactly technologically adept and needed help with software use and other routine tasks. Our students are ‘digital natives’ and the world in which they have grown up is palpably different to ‘digital immigrants’. Lei (2009) cautions that “digital experiences have changed not only the ways today’s young people communicate, socialize, and entertain, but also fundamentally altered how they approach learning” (p. 88). Considering the Japanese learning context, while many would agree with the former part of Lei’s comment, many educators based in Japan would definitely disagree that Japanese students’ learning patterns have been altered by technology. Japanese students and their teachers still cling to traditional forms of teaching and learning with rote learning being the norm (Cripps, 2016). This obviously has ramifications for the way that technology is utilised in and out of the classroom. The encroachment of new forms of technology on the traditional parameters of the classroom is beginning to change (albeit slowly) how English is being taught even in Japan.

Recently, mobile learning in particular has become the focus of many educational researchers who are eager to investigate the potential benefits that mobile devices hold for language learning (Kim, D., Rueckert, Kim, D.-J., & Seo, 2013; Park, 2011). In Japan, junior high school, senior high school, and university students rely on their smartphones for social communication, study, and entertainment (Alhassan, 2016; White, 2011; White & Mills, 2014). Japanese high school students consider their smartphones to be *de rigueur*. Although this particular area of research is relatively new, nascent studies on mobile learning have noted the complexities associated with its use. Particularly, when schools ban the use of smartphones in classes, despite the fact that they are the device on which students most commonly rely, both teachers and students encounter problems.

Although Japan is famous for its technological innovation, pedagogically speaking, it is many years behind its international counterparts with regard to the effective use of technology to facilitate learning (Cripps, 2016). The application of BYOD (Bring Your Own Device)/BYOT (Bring Your Own Technology) is still in its embryonic stage. Some universities in Japan, such as Kyushu University and Ritsumeikan University, have tried to encourage BYOD/BYOT use on their campuses, but its effectiveness has yet to be proven. Despite this seeming lack of proof, the advantages of BYOD/BYOT are evident to forward thinking educational practitioners: “Teachers and institutions who are advocates of BYOD/BYOT can see the advantages of using portable technology, especially as their students (who are assumed to be digital natives) seem to be comfortable with using such technology” (Cripps, 2017, p. 2). In fact, it is natural for students to expect that they will be allowed to use the technology around them to look up information. It is also natural for students to “want their learning environment to look more like the ‘world’ in which they live” (Sedek, Mahmud, Ab. Jalil, & Daud, 2014) where they can use the technology how they want, where they want, and when they want (see also Beetham & Sharpe, 2013). However, it is important to remind ourselves that although digital natives can use technology, it does not necessarily mean that they can use it in a meaningful way – especially in a teaching/learning context.

Pimmer, Mateescu, and Gohbiel (2016) highlight the fact that the “educational use of digital mobile technology is at the core of vibrant and expanding streams of research known as mobile and ubiquitous learning. Both concepts are strongly interconnected” (p. 2). As far as educational technology and its implementation in higher education is concerned, its use and role has been a battleground for some teachers. There is no denying though that the potential of online learning to transform education has been championed by many, especially if it is combined with face-to-face teaching. Some have even challenged the dominance of lectures in higher education (Garrison & Kanuka, 2004). What remains to be seen is if a transformative technology, such as mobile learning, will be able to make an impact on a traditional teaching context such as Japan where educational practitioners and institutions are often resistant to change.

A further challenge to the traditional teaching context are Massive Open Online Courses (MOOCs). With the rapid expansion of MOOCs and online learning platforms, students are increasingly in a stronger position to take advantage of the opportunities to study online (Cripps, 2014). The U.S. Department of Education succinctly summarises the advantages of online learning: “Online learning and the use of open educational resources and other technologies can increase educational productivity by accelerating the rate of learning; reducing costs associated with instructional materials or program delivery; and better utilizing teacher time” (n.d., p. 1). While many people advocate the use of the latest technology inside and outside the classroom, firm guidelines on how to weave BYOD/BYOT and MOOCs into existing courses effectively need to be established (Andrus, 2014; Panagos, 2013). Effective guidance on the use of technology will help strengthen students’ self-directed learning and encourage active learning within a supportive environment.

It is clear that digital natives use technology in a much different way compared with their teachers and parents. As some of these digital natives become teachers, research is needed to analyse how they cope with the transition to teaching and to what extent their technological ‘expertise’ helps them when teaching. However, little research has been conducted on digital natives as pre-service teachers: “Rarely has research examined digital natives as teachers or pre-service teachers. Teachers, as a large group of individuals at different technology proficiency levels and at different ages, have been defined at the other side of the divide – the digital immigrants who speak the technology language with attitudes and accents” (Lei, 2009, p. 87). Lei notes that the time is propitious to take a closer look at the first generation of digital natives, as some of them enter teacher education programs and become teachers themselves. Do they have the technological knowledge required for teaching? If so, should “technology integration preparation” still be part of a teacher education program? (Lei, 2009, p. 87). Martin (2015) calls for better preparation for pre-service teachers: “Today’s teaching education programs should provide pre-service teachers with ample preparation in shifting instructional approaches enriched with innovative educational technologies.” (p.17) Japan needs to rethink the role of its pre-service teacher training especially with regard to Technological Pedagogical Content Knowledge (TPACK) and how to successfully prepare its teachers for the realities of teaching in a digital age (see Koehler & Mishra, 2009; Martin, 2015; Mishra & Koehler, 2006).

Today’s pre-service and in-service teachers face a number of challenges, perhaps none so immediate as how to cope with the ubiquitous nature of technology. Oyanagi and Satake (2016) frame this problem: “The challenge facing the modern teacher is how to incorporate multimodalities and differentiated educational technologies to facilitate and/or enhance student learning. As a solution, teachers must acquire and develop technological pedagogical content knowledge” (p. 33; see also Mishra & Koehler, 2006). Digital natives who intend to become teachers need to understand the role that technology plays in their lives and their students’ lives. Today’s digital natives have grown up in a world where technology has become woven into the fabric of their daily existence. Also, today’s university graduates who intend to become English teachers have never known a world without the Internet, mobile technology, and SNS. For the very first time in the modern pedagogical era, we have a situation where digital natives are teaching digital natives. The TWT course outlined in this article was designed to support these ‘digital native teachers’ and prepare them, pedagogically speaking, for the challenges of ubiquitous technology as regards teaching. The course aims to foster

a reflective environment where students are encouraged to consider the importance of (and use of) technology in and out of the classroom to support both teachers and students.

Jung (2014) maintains that “[...] there has been an increase in the demand for both traditional and alternative learning systems as well as lifelong education because of the establishment of a knowledge- and information-based society” (p. 1). Ubiquitous learning, or ‘u-learning’ as it is commonly known, is an expanding research area that warrants further attention. It is important to briefly define ubiquitous learning for the parameters of this study and clarify how it is connected to such concepts as CALL, TELL, MALL, and BYOT/BYOD. Given the fluid nature of technology, it is perhaps unsurprising that ‘ubiquitous learning’ is a difficult concept to pin down and definitions have changed over time, as technology has developed. Many scholars have tried to define the concept with varying degrees of success. Watson and Plymale state that “ubiquitous learning (u-learning) is a learning paradigm offering the promise of support for teaching anything at any time in any place by using ubiquitous computing devices, software, and services” (2011, p. 9). However, Watson and Plymale admit that this claim for ubiquitous learning is ‘unrealistic’ due to current technological limitations. They note that the definition of u-learning has been redefined as “teaching the right thing, at the right time, in the right place” (2011, p. 9). This definition itself also has its limitations, as it focuses on teaching rather than learning. The essence of ubiquitous learning is that learning can take place more often than not without a teacher being present.

In many countries throughout the world, students have the opportunity to take advantage of the ubiquitous nature of technology to help their learning. For this article, I will use the following definition of ubiquitous learning based on Watson and Plymale’s (2011, p. 9) synthesis of numerous definitions – A learning environment where students have access to, and can use, a number of technologies to help them study what they want, when they want, and how they want (for a more detailed discussion on ubiquitous learning and ubiquitous learning environments see Kidd & Chen, 2011; Ogata & Yano, 2004; Po-Sheng, Yen-Hung, Yueh-Ming, & Tzung-Shi, 2008; Yahya, Ahmad, & Jalil, 2010). Thus, ubiquitous learning encompasses CALL, TELL, MALL, BYOT/BYOD, online learning and MOOCs. Students now live in a world where they can use technology to help their learning how they like, wherever they are, and whenever they like. This has important ramifications for teacher training and professional development.

3 Method

3.1 Background and participants

The study took place at Nanzan University, which is a private Catholic university in Nagoya, Japan, and has approximately 10,000 students. The participants were students in the Department of British and American studies (known as ‘*Eibei*’ in Japanese). *Eibei* is known for the high English level of its students and for the challenging nature of its English programme. The ‘Teaching with Technology’ (TWT) course outlined in this article, which the participants took, is an elective course offered to third- and fourth-year students at *Eibei*. It is a 15-week course and students who elect to take it usually have a strong interest in English teaching and some also take the teaching licence course at Nanzan University (see Appendix 1 for the TWT course syllabus and Appendix 2 for the TWT semester outline). The TWT course takes place over the spring semester and focuses on six core topics:

- 1) Technology in the classroom
- 2) E-learning
- 3) MOOCs
- 4) Using websites
- 5) E-creation tools
- 6) Preparing for the future

The TWT course is quite demanding. Students have to give two major presentations – one group presentation, and one group, pair, or individual presentation. In addition, they have to give one individual mini-presentation on effective smartphone applications for language learning and conduct a semester-long project on MOOCs (see Cripps, 2014). At the end of the course, the students must submit a report (800–1000 words) on their MOOC research (see Appendix 3). The students who took part in this research study ($n=12$) were nine females and three males. Their TOEIC scores ranged from 780 to over 950 and at least half of them had lived overseas for at least a year.

This article set out with two distinct research questions: 1) What are the TWT students' thoughts on technology in general?; and 2) How would the TWT students incorporate technology into English classes in Japan? Five main data collection sources were used: 1) an initial questionnaire on technology; 2) videos of students' presentations; 3) reflective material generated throughout the course; 4) end-of-semester peer interviews; 5) end-of-course self-reflection reports.

The questionnaire responses, videos, reflective material (such as online interaction and discussions) and self-reflection reports were analysed using grounded theory for general themes that emerged from the data (Radnor, 2002). These themes were coded and broken down into sub-themes until saturation had been reached. At each juncture of the data collection process, the responses from the students were coded, analysed (using the NVivo software package), and used to inform each new source of information. I have found that the logical, meticulous analytical nature of grounded theory is most appropriate for an analysis of the complex nature of students' views (Charmaz, 2014; Cripps, 2014; Radnor, 2002; Saldaña, 2013). At each stage of the data collection process, grounded theory allows for the research themes to emerge from the data, rather than imposing the researcher's own ideological constraints and biases on the process.

3.2 Questionnaire

In order to ascertain the students' views on technology, Dudeney and Hockly's (2007) questionnaire on attitudes to technology was administered (see Table 1 in Section 4.1). All the students agreed to complete the questionnaire at the start of the course. This questionnaire provides a useful gauge of students' attitudes to technology. Twelve statements are used and a five-point Likert scale is employed.

3.3 Presentations

At the beginning of the TWT course, the students were informed that they would be giving three presentations throughout the semester: 1) a short individual presentation (2–3 minutes) introducing useful self-study smartphone applications for ESL students; 2) a group presentation (20 minutes) on using technology for teaching/learning; and 3) group, pair, or individual presentations (10–20 minutes) on using technology to help ESL students and their teachers at junior high and senior high schools in Japan. All the presentations were videoed and analysed using NVivo software.

3.3.1 Weekly mini-presentations

Starting from Week 2 of the semester, each week, one or two students gave short, unscripted, presentations on useful smartphone applications for students of English. The intention of these short presentations was to encourage the students to think about what useful applications they could employ if (or when) they become junior high or senior high school English teachers.

3.3.2 Group presentations

The students were informed that, for their first graded presentation, they were going to give a presentation in small groups on one of the first three lectures of the TWT course – namely 'Technology in the classroom', 'E-learning', and 'MOOCs' (see Appendix 4). The purpose of these

presentations was to get the students to consider how technology has become part of their lives and the potential benefits of technology to aid teachers and students.

3.3.3 Presentations on using technology at Japanese junior high and senior high schools

For their final presentation, the students were given the following scenario (see Appendix 5):

- Briefly explain what you think about technology in our world and specifically in a learning/teaching context
- Explain how you would use technology to support learners of English at a Japanese junior or senior high school (choose one)
- Come up with at least three positive suggestions

3.4 Reflective material generated throughout the course

After the first group presentations were over, the students completed a questionnaire on MOOCs and future educational trends. The students were asked to comment on the progress of their MOOC projects (see Cripps, 2014) and also share their thoughts on future trends in education. This theme of encouraging the students to consider the future in terms of teaching and the use of technology continued throughout the course. One of the classes (Week 11) was set aside to discuss the topic of ‘Preparing for the future’ and a synchronous online class was scheduled using the online platform ‘Edmodo’ (Edmodo, n.d.). The students were divided into three small groups (four students per group) and they were asked to consider the future of education and the challenges that teachers and students will face (the online interaction was saved and then analysed using NVivo).

Four questions were posed (see Appendix 6):

- 1) What skills do you think teachers and students are going to need in the future?
- 2) What existing technologies do you think will still be around 10 years from now?
- 3) What new technologies do you think will emerge over the next 10 years?
- 4) Try to picture how teaching will take place in the future. What roles or roles will technology play?

3.5 Peer interviews

At the end of the course, the students interviewed each other in the final class. Several video cameras were distributed to the students and they were asked to interview each other and record their partner’s answers to two broad questions: 1) What kind of technology user are you?; and 2) What is your view on ubiquitous technology?

3.6 End-of-course self-reflections

At the end of the course, the students were asked to reflect on their work throughout the semester. Specifically, they were asked to reflect on the role of technology in their lives and its importance in a learning/teaching context.

4 Results and discussion

Throughout the TWT course, the students were encouraged to explore their views on technology through presentations, course work, and self-reflection. Below, an overview is provided on the students’ thoughts on technology in general, and their exploration of the theme of using technology to enhance language learning/teaching and the ubiquitous nature of technology.

4.1 Attitudes to technology

The results of the TWT students' responses to the attitudes to technology questionnaire are presented in Table 1.

Table 1. Attitudes to technology questionnaire results

Technology Questionnaire	Disagree Totally	Disagree	No Strong Opinion	Agree	Strongly Agree
1. I enjoy using technology.	0	0	1	7	4
2. I avoid using technology when I can.	4	6	1	1	0
3. I think using technology in class takes up too much time.	2	7	1	2	0
4. I know that technology can help me learn many new things.	0	1	1	2	8
5. Technology intimidates and threatens me.	2	4	4	1	1
6. Teachers should know how to use technology in class.	0	0	1	6	5
7. I would be a better teacher if I knew how to use technology properly.	0	0	1	4	7
8. I'm very confident when it comes to using technology in class.	1	7	2	1	1
9. I want to learn more about using technology in class	0	0	1	5	6
10. I believe that the Internet can really improve my teaching practice.	0	2	2	7	1
11. Changing the curriculum to integrate technology is impossible.	2	7	3	0	0
12. Technology breaks down too often to be of very much use.	0	5	5	2	0

The results from Item 1 show that almost all the students agreed with the statement 'I enjoy using technology' (Agree n=7, Strongly Agree n=4). This result perhaps is not so surprising, as these students have grown up in a world where the ubiquity of technology is taken for granted. The students seem to recognise the potential of technology to facilitate learning. Item 4, 'I know that technology can help me learn many new things', showed strong agreement with this statement (Agree n=2, Strongly Agree n=8). Similarly, in a pedagogical context, all but one student agreed with Item 6 that 'Teachers should know how to use technology in class' (Agree n=6, Strongly Agree n=5) and Item 7, 'I would be a better teacher if I knew how to use technology properly' (Agree n=4, Strongly Agree n=7). Despite the expressed need to know how to use technology and recognising its pedagogical benefits, at the start of the TWT course, the students were not confident when using technology, despite being digital natives, as Item 8, 'I'm very confident when it comes to using technology' (Disagree Totally n=1, Disagree n=7), demonstrated. Although these initial questionnaire responses are simply a 'snapshot' of the students' attitudes to technology, they do provide an interesting insight into how they feel about technology in general.

4.2 Presentations

The students seemed to enjoy the three different types of presentations they were asked to give. The presentations were designed to afford them the chance to explore how they feel about technology and also how it can be incorporated into English classes in Japan. As mentioned earlier, all the presentations were recorded and analysed using NVivo software.

4.2.1 Weekly mini-presentations

The students introduced a wide range of smartphone applications for their mini-presentations which were both interesting and useful. They were asked to choose one smartphone application and explain how they would use that application to support junior high or senior high school students' English studies. The students chose applications that helped build vocabulary skills, listening skills, reading skills, writing skills, and test-taking skills. In their short presentations, they explained the pros and cons of these applications. In addition, they highlighted the challenges that students would typically face when using these applications and they also provided solutions to these problems. These mini-presentations were videoed, transcribed, and analysed using grounded theory. The key themes that arose were added to the data corpus.

4.2.2 Group presentations

The students self-selected their group members and four groups were formed. Their chosen presentation subjects were:

- 1) MOOCs in Japan
- 2) The potential benefits of MOOCs
- 3) PISA (Programme for International Student Assessment)
- 4) Electronic blackboards

One of the most noticeable presentations was on 'Electronic blackboards'. Although, at first, it was a seemingly innocuous topic, the 20-minute group presentation served as a catalyst for a lively debate about the future of English education in Japan and the failings of the present English language education system.

4.2.3 Presentations on using technology at Japanese junior high and senior high schools

This scenario for the final presentation seemed to be highly motivating and the students poured all their efforts into researching, discussing, and preparing for their presentations. Nine comprehensive topics formed the basis of their final presentations (most presentations were individual presentations but some presentations were made in pairs):

- 1) 'Introducing tablets in High School'
- 2) 'Finger board pro and Finger board for students/Electronic blackboards/Keynote'
- 3) 'Using ICT in High School Education'
- 4) 'How to use electronic blackboards effectively'
- 5) 'How to improve educational technology use'
- 6) 'Using Skype in the classroom'
- 7) 'The pros and cons of iPads'
- 8) 'Using tablets at high schools'
- 9) 'Using smartphones in the classroom'

Unfortunately, a written research article such as this can only attempt to represent the vibrancy and energy that the students gave when they were presenting. Overall, the students gave a considered appraisal of the potential of technology to possibly aid English teachers at Japanese junior high and senior high schools, as well as their students.

4.3 Reflective material generated throughout the course

As mentioned earlier, one of the aims of the TWT course is to afford the students the opportunity to reflect on technology, the role it plays in their lives, and how it can be utilised for pedagogical purposes. In Week 9, using a simple open-ended questionnaire with two items, the students were asked to comment on two topics: 1) MOOCs; and 2) possible future trends in education. The students' comments on MOOCs have been elucidated in a previous paper (Cripps, 2016). Below, I discuss the students' responses to the following item on future trends: 'Try and predict future trends in education. What will happen in the future?' Initially, many of the students understandably (considering their final paper) focused on MOOCs such as: "There will be more easy version of MOOCs" or "There will be the MOOCs for ESL." However, later on, their responses also started to focus on broader areas of education and the future. The main themes which arose from the analysis of the questionnaire comments are presented in Table 2.

The five main themes which emerged from the analysis of the students' comments about predicting the future demonstrated that they were confident that online learning would become more prevalent. They also strongly indicated that flipped classrooms would become more widespread in tandem with an increase in the use of tablets in schools. While they argued for the benefits of ubiquitous technology, they were also aware that there were many uncertainties connected with the future.

In Week 11, I scheduled an online class based on the theme: 'Preparing for the future'. The students were asked to discuss four questions related to technology and the future. Table 3 provides an overview of the students' responses. As can be seen, the students believed that teachers will need to know how to use technology as an essential element of their pedagogical armoury. In addition, students will need to "work out questions by themselves" and to understand how to use new technology.

Despite the fact that I set up a dedicated forum for the students to discuss on the CourseSites (n.d.) platform, one group of students chose to discuss the questions using the 'LINE' (Line, n.d.) application. This independent action adds further credence to their claim that they are 'mobile magicians'.

Table 2. Predicting trends in education

Theme	Students' Comments
Online courses	<p>“There will be more course for Teachers how to use technology.”</p> <p>“More seminars & lecture, training course for teachers.”</p> <p>“I think technology will improve more and many classes are held online. Students and the teachers don't have to go to school and study/teach at home.”</p>
Rethinking the traditional classroom and traditional teaching methods	<p>“Flip classroom might be the future trend. Many people insist that “active learning” should be promoted more in classroom, and MOOCs can be used in flip classroom, which is certainly effective to achieve ‘active learning’.”</p> <p>“Home - Learning (watching videos, quizzes etc.)”</p> <p>“Class – Practicing (Speaking English a lot, taking more time off to do experiments in science class.)”</p> <p>“In the future, the number of classes where students just listen to what teachers say will decrease dramatically. The class style will become like flipped class. Students will watch the videos where teachers teach something at home and they just discuss and ask questions in the classes in school.”</p>
Increased use of tablets	<p>“I think more people use tablets for education. A tablet is portable, having visual aids, and always giving the latest information.”</p> <p>“Introduce tablet for each student instead of buying paper textbook and homework. Students will use computers to do their homework.”</p> <p>“Everyone has their own IPAD (well this's already happening) in some places. This might be out of point, but I hope iMovie, iBook and other Mac-featured app will be installed in other devices.”</p> <p>“I think using tablets is going to be the trend in future education. Taking notes, reading text book, doing homework etc. are carried out by using tablet.”</p>
Advantages of ubiquitous technology	<p>“Technology open our environment to the world, technology will make more global people.”</p> <p>“Like this education will be carried out by using technology, in other word people will totally rely on technology in the future.”</p>
Uncertainty	<p>“I think it will become more and more mechanization and there will be just a little opportunity to work with pen and paper. However Japanese government are reluctant to use new technologies, so I'm not sure if the same things will happen in Japan...”</p>

Table 3. Overview of the TWT students' responses

Question	Responses
What skills do you think teachers and students are going to need in the future?	Teachers "to teach students practical things such as computer" "skills to use technology (iPad/PC etc ...)" Students "to work out questions by themselves" "to cooperate with other students to make as much possible solutions" "skills to use technology understand its method" "invent new technologies"
What existing technologies do you think will still be around 10 years from now?	Tablets Smartphones Projectors Computers The Internet
What new technologies do you think will emerge over the next 10 years?	Electrical blackboard Portable blackboard & pens Electrical notebook Presentation camera Project mapping
Try to picture how teaching will take place in the future. What roles or roles will technology play?	"To show the convincing reasons or pictures or movies during discussion/presentation" "Help present the lecture" "Visual effect" "Prefigure the future"

4.4 Peer interviews

In Week 15, at the end of the course, the students interviewed each other about how they use technology and their views on ubiquitous technology. The selected comments shown in Table 4 are representative of the students' views on Question 1 about the kind of technology user they are. All students stated that they were comfortable with using their smartphones and many actually claimed that they were 'mobile magicians.' However, some qualified their statements by stating that, although they were competent at using smartphones, their computer software skills, such as using Word or Excel, were weak.

Regarding Question 2 on the ubiquitous nature of technology, the students stated that they felt that it was convenient and useful (see Table 5). Some even stated that they thought that they could not survive without technology. Most of the video interviews followed a similar pattern. After praising the convenience of ubiquitous technology, the students considered the negative aspects of this ubiquity and how it could have a detrimental impact on their lives.

Table 4. What kind of technology user are you?

Expressing confidence in using technology	<p>“Maybe all students in this class would say they are good at using smartphone and I think I am good at using smartphone... and also sometimes I teach my mum how to use the smartphone. So I think I am good at using smartphone and also I think I am good at using the PC especially Word.”</p> <p>“I think I am also a mobile magician because I use my iPhone to communicate with my friend or send e-mail to my family or teachers. And also to surf the Internet or play games or... I like drawing pictures and I also draw pictures with my iPhone. So I think I do so many things with my iPhone... I haven't used tablet but if I have one I think I can use it because it's similar to iPhone. And, I'm not so good at using PC but I can use Word and Excel and I can send e-mail and use the Internet. So I'm like a mobile magician or digital native...”</p> <p>“I think I am a mobile magician because I'm good at using my iPhone. But actually I'm good at using Word but I'm not good at using Excel because, maybe, we rarely use Excel...”</p> <p>“I'm a mobile magician and I started using my iPhone without reading any instructions – I just did it! (Laughs) I like using technology so I like to find out things by myself without reading the 説明書 (instructions). I'm more used to using my mobile phone because I have it every day and I every day.”</p> <p>“I can use smartphones and PCs but I cannot use really complicated technology like iCloud or iTunes so I always rely on my father (laughs).”</p>
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Table 5. What is your view on ubiquitous technology?

The convenience of ubiquitous technology	<p>“It's so convenient and useful for us because, for example, during the train or in the train we can get lot of lots of information through the smartphone. Using technology, we can do lots of things for example like buying foods or something else. So technology is useful ...”</p> <p>“I think it is very useful because we can edit out document or we can send e-mail everywhere. So I think ubiquitous technology is one of the essential things in the future.”</p> <p>“Having technology around us is, I think, really convenient. And the Internet allows us to do many things fast and do more things in a particular time so I think it's really convenient. So I feel positive about having technology around us.”</p> <p>“Now it is very useful to use many technology and maybe I cannot live without technology.”</p>
Concerns over the impact of ubiquitous technology	<p>“So technology is useful but sometimes so stressful for me because (in Japanese – there are too many types of technology). So there are advantageous and disadvantages so I'm am not so certain if it is good to use technology in our lives so many times.”</p> <p>“I think, as many students answered it is very comfortable and convenient but in some points I feel uncomfortable because always, in my iPhone, someone send me LINE or message and I think I should reply to them soon – as soon as possible and sometimes I don't feel like using my iPhone ... so when it happens I feel it is a little bit uncomfortable.”</p> <p>“But technology has negative points like it's bad for our health. So I think using technology and time for not using technology is important.”</p> <p>“But sometimes I feel headache to use too much technology. I have to always check my iPhone ... it's too burden for me! I like technology but I have to think about how much we will use technology.”</p>

4.5 End-of-course self-reflections

In their end of course self-reflections, some of the students took the opportunity to comment not only on their effort but also on technology in general. As one student explained: “Electronic devices or technologies are becoming more and more popular, and I think we young people have to catch up with this trend.” This comment typifies the feelings of many of the students. Although they expressed that they were comfortable with using technology and enjoyed using their smartphones, the students recognised that they had a steep learning curve ahead, if they want to keep up with technological developments.

The TWT course was designed to give students the chance to enhance their knowledge, skills, and experience to integrate technology into the classroom and consider its role outside of the classroom. Lei (2009) noted in her study that the pre-service teachers showed “that they had a mature understanding of the complexity of technology integration in schools, but on the other hand, revealed that they might not be active users of technology in their own teaching” (p. 92). I found a similar display of maturity and lack of technological expertise in all the students that have taken the TWT so far. It is therefore imperative that students be given the chance to not only explore what they think about technology but also how to use it. Only by trying to use technology within the parameters of a teaching setting will they learn how to use it effectively. Lei’s study (2009) focused on pre-service teachers and their beliefs and attitudes to technology. She wanted her students to “explore what technology preparation is needed to prepare them to integrate technology in their future classrooms” (p. 89). There are many parallels between Lei’s study and this study.

4.6 Summary of research findings

The first research question of this study aimed to ascertain what the TWT students think about technology in general. The data from the attitudes to technology questionnaire showed that the students clearly enjoy using technology and believe that teachers should know how to use technology. However, despite the fact that they enjoy using technology, the TWT students are not so confident when using it. When asked to predict future trends in education, the TWT students said that the number of online classes will rise along with an increase in the use of flipped classrooms and home learning. They predicted that MOOCs will become part of the fabric of education in Japan and that the use of tablets in classrooms will become more prevalent. The second research question aimed to find out how the TWT students would incorporate technology into English classes in Japan. In their mini-presentations, the students explained how they would use smartphone applications to support learning inside and outside the classroom. Their final presentations focused on using such technology as tablets, electronic blackboards, smartphones, and Skype to support English language learners at junior and senior high schools in Japan. Their presentations demonstrated that they could clearly see a place for technology to support both teachers and learners. Finally, throughout the course, the TWT students were encouraged to explore their thoughts on ubiquitous technology. Data collected throughout the course showed that the students are generally positive about ubiquitous technology and yet cautious about its impact on society. They also expressed concern that they need to keep up with the expansion of technology.

5 Conclusions and implications

This article has focused on one group of students and a course that was designed to help them explore the potential of technology and how it can be used for ubiquitous learning. The study has also raised certain issues which could have wider implications for the preparation of prospective language teachers for technology use and ubiquitous learning in teacher education. Martin’s (2015) study on the successful implementation of TPACK in teacher preparation programs highlights the importance of such programs and how they should help prepare digital natives for the challenges of using technology in and out of the classroom. Lei (2009) found that pre-service teachers, although

being adept at using technology for social networking and learning as students, lack the knowledge and expertise to facilitate the integration of technology into the classroom. The TWT course provides one example of how pre-service teachers of English can be introduced to salient themes and practical skills within a formal structure, with the ultimate aim of preparing them for the challenges that teaching holds.

As far as future directions for teaching at Nanzan University and setting in place a technological support structure for ubiquitous learning, García-Sánchez and Santos-Espino's (2017) work on getting pre-service teachers to produce 'ubiquitous flipped classrooms' is one direction that warrants further exploration. García-Sánchez and Santos-Espino (2017) contend that the pedagogical practice of flipping the classroom is part of creating a ubiquitous learning environment where "learning takes place anywhere and at any time, often digitally and outside the institutional spaces and hours. The u-learning flipped session must require consequent individual tasks, but also collaborative or cooperative exercises or projects can be applied" (p. 170). With Nanzan University's move to a wireless campus and the active encouragement of BYOD/BYOT, it is logical to assume that flipped classrooms will increasingly become part of the pedagogical fabric at the University. In fact, courses like the TWT course will likely have to be offered to faculty members as part of the University's Faculty Development (FD) program.

This study also has implications for language education research, especially within the context of English language education in Japan. Previous studies (Cripps, 2014, 2016, 2017) on teacher education and the challenges that Japanese pre-service and in-service English teachers face, have raised the issue of the inadequacy of pre-service teacher training and in-service pedagogical support. Many English teachers in Japan feel ill-prepared for the realities of teaching and have little or no practical experience before starting their teaching careers. More research needs to be conducted on the needs of English teachers in Japan and the effectiveness of current teacher-training programs in Japan. In tandem with this, further research needs to be conducted on the effectiveness of pre-service courses at the undergraduate level such as the TWT course. I would argue that exposure to such themes as ubiquitous technology, E-learning, M-learning, and MOOCs, through the TWT course have given my students the opportunity to consider both the role of technology in their lives, and how they can encourage ubiquitous learning. Of course, the TWT course is not without its weaknesses. Realistically, such a short course can only serve to have a minimal impact on the students. A longer course over the space of one year may possibly have more of an effect. Also, if the TWT course had a dedicated website which was stocked with useful material such as videos, teaching advice, research articles, and handouts, it could arguably have a more meaningful impact, as the students would have access to this when they become teachers. With this in mind, I plan not only to create an accompanying TWT website, but also a dedicated MOOC designed for pre-service and in-service teachers. It will aim to provide practical and essential support for Japanese teachers of English. At the time of writing, I have submitted a formal application to JSPS (Japan Society for the Promotion of Science) for funding to create this teacher-training MOOC.

It is a fact that our students have been raised in a world where technology is ubiquitous. Students of this generation have never known a world where the Internet, smartphones, tablets, and notebook computers did not exist. For these students, it is of paramount importance to learn how to use existing and emerging technology effectively. Furthermore, if any of these students become English teachers in the future, it will be vital for them to learn how to utilize technology in an educational setting.

Trying to generalise from the findings of such a small-scale research study would be foolhardy. Further, wide-scale investigation is needed into students' views on how technology can be utilised to help both students and teachers in and outside the classroom. In addition, an in-depth parallel study is needed on students' views on ubiquitous technology and learning. In future studies, I intend to widen the scope of this study by conducting research on a number of classes at different universities throughout Japan.

I fully concur with Lei who states that "it is the responsibility of teacher education programs to help them make the transition from digital-native students to digital-native teachers who can use

technology in meaningful ways in classrooms” (2009, p. 92). This research article has examined the views of one cohort of university students who may become English teachers in Japan after they graduate. Their presentations on utilizing technology to help junior high and senior high school students and teachers gave them the chance to consider how and why technological support should be woven into the pedagogical support structure. The students, self-confessed “mobile magicians”, recognise the potential of technology to enhance teaching and learning. However, they also understand that the ubiquitous nature of current technology can be a threat. In their end-of-semester pair video interviews, almost all of the students admitted that although they were comfortable using smartphones on a daily basis, they were worried about the rapid growth of technology and the role that it plays in their lives. Courses like the TWT course give digital natives the chance to be ‘digital explorers’ and this should be beneficial to their future teaching careers and their students.

Acknowledgements

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References

- Alhassan, R. (2016). Mobile learning as a method of ubiquitous learning: Students’ attitudes, readiness, and possible barriers to implementation in higher education. *Journal of Education and Learning*, 5(1), 176–189.
- Andrus, F. (2014). Preparing for the BYOD invasion on your campus. Retrieved from <https://www.university-business.com/article/preparing-byod-invasion-your-campus>
- Beetham, H., & Sharpe, R. (Eds.). (2013). *Rethinking pedagogy for a digital age: Designing for 21st century learning*. New York: Routledge.
- Cameron, D. (2005, December). *The next generation goes to university?* Paper presented at the Journalism Education Association Conference, Surfers Paradise, Queensland, Australia.
- Charmaz, K. (2014). *Constructing Grounded Theory*. Los Angeles, CA: Sage Publications.
- CourseSites. (n.d.). Webpage. Retrieved from <https://www.coursesites.com/webapps/Bb-sites-course-creation-BBLEARN/pages/index.html>
- Cripps, A. C. (2014). “It’s my challenge”: Exploring the MOOC terrain. In Aishah M. K., Bhatt, S. K., Chan, W. M., Chi, S. W., Chin, K. W., Klayklueg, S., Nagami, M., Sew, J. W., Suthiwan, T., Walker, I. (Comps.), *Knowledge, skills and competencies in foreign language education. Proceedings of the 6th CLS International Conference* (pp. 89–102). Singapore: Centre for Language Studies, National University of Singapore.
- Cripps, A. C. (2016). English Language Education in Japan: Problems and Solutions. In A. C. Cripps (Ed.), *Perspectives on English language education in Japan* (pp. 241–260). Charleston: CreateSpace.
- Cripps, A. C. (2017). Assessing the efficacy of Bring Your Own Device/Bring Your Own Technology: An exploratory study. *Academia*, 101, 15–34.
- Dudeney, G., & Hockly, N. (2007). *How to teach English with technology*. London: Pearson Ltd.
- Edmodo. (n.d.). Homepage. Retrieved from <https://www.edmodo.com>
- García-Sánchez, S., & Santos-Espino, J. M. (2017). Empowering pre-service teachers to produce ubiquitous flipped classrooms. *PROFILE*, 19(1), 169–185.
- Garrison, D. R., & Kanuka, H. (2004). Blended learning: Uncovering its transformative potential in higher education. *The Internet and Higher Education*, 7, 95–105.
- Jung, H-J. (2014). Ubiquitous learning: Determinants impacting learners’ satisfaction and performance with smartphones. *Language Learning & Technology*, 14(3), 97–119.
- Kidd, T. T., & Chen, I. (Eds.). (2011). *Ubiquitous learning: Strategies for pedagogy, course design, and technology*. Charlotte, NC: Information Age Publishing.
- Kim, D., Rueckert, D., Kim, D.-J., & Seo, D. (2013). Students’ perceptions and experiences of mobile learning. *Language Learning & Technology*, 17(3), 52–73. Retrieved from <http://lt.msu.edu/issues/october2013/ki-metal.pdf>
- Kim, R. (2011). The iPhone effect: How Apple’s phone changed everything. Retrieved from: <http://gi-gaom.com/2011/06/29/the-iphone-effect-how-apples-phone-changed-everything>
- Koehler, M. J., & Mishra, P. (2009). What is technological pedagogical content knowledge? *Contemporary Issues in Technology and Teacher Education*, 9(1), 60–70.

- Lei, J. (2009). Digital natives as preservice teachers: What technology preparation is needed? *Journal of Computing in Teacher Education*, 25(3), 87–97.
- Line. (n.d.). Website. Retrieved from <https://line.me/en-US/>
- Martin, B. (2015). Successful implementation of TPACK in teacher preparation programs. *International Journal on Integrating Technology in Education (IJITE)*, 4(1), 17–26.
- Mishra, P., & Koehler, M. J. (2006). Technological pedagogical content knowledge: A framework for teacher knowledge. *Teachers College Record*, 108(6), 1017–1054. doi: 10.1111/j.1467-9620.2006.00684.x
- Ogata, H., & Yano, Y. (2004, March). *Context-aware support for computer-supported ubiquitous learning*. Paper presented at the Second IEEE International Workshop on Wireless and Mobile Technologies in Education, WMTE 2004, Taoyuan, Taiwan.
- Oyanagi, W., & Satake, Y. (2016). Capacity building in technological pedagogical content knowledge for pre-service teacher. *International Journal for Educational Media and Technology*. 10(1), 33–44.
- Panagos, T. (2013). *The future of education: BYOD in the classroom*. Retrieved from <https://www.wired.com/insights/2013/09/the-future-of-education-byod-in-the-classroom/>
- Park, Y. (2011). A pedagogical framework for mobile learning: Categorizing educational applications of mobile technologies into four types. *The International Review of Research in Open and Distributed Learning*, 12(2), 78–102.
- Pimmer, C., Mateescu, M., & Gröbhel, U. (2016). Mobile and ubiquitous learning in higher education settings. A systematic review of empirical studies. *Computers in Human Behavior*, 63, 490–501.
- Po-Sheng, C., Yen-Hung, K., Yuch-Ming, H., & Tzung-Shi, C. (2008). A meaningful learning based u-learning evaluation model. In *The proceedings of the Eighth IEEE International Conference on Advanced Learning Technologies 2008* (pp. 77–81). Santander: IEEE. Spain.
- Radnor, H. (2002). *Researching your professional practice*. Buckingham: OUP.
- Saldaña, J. (2013). *The Coding manual for qualitative researchers*. Los Angeles, CA: Sage Publications.
- Sedek, M., Mahmud, R., Ab. Jalil, H., & Daud, M. S. (2014). A new model on the use of ubiquitous technology (U-Tech) as a learning tool. *World Journal on Educational Technology*, 6(2), 181–191.
- Stockwell, G. (2010). Using mobile phones for vocabulary activities: Examining the effect of the platform. *Language Learning & Technology*, 14(2), 95–110. Retrieved from <http://llt.msu.edu/vol14num2/stockwell.pdf>
- Stockwell, G. (2014). Exploring theory in computer-assisted language learning. In X. Deng & R. Seow (Eds.), *Alternative pedagogies in the English language & communication classroom: Selected papers from the Fourth CELC Symposium for English Language Teachers* (pp. 25–30). Singapore: Centre for English Language Communication, National University of Singapore.
- The Economist. (2013, October 12). *Learned luddites..* Retrieved from <http://www.economist.com/news/united-states/21587820-many-professors-are-hostile-online-education-learned-luddites/print>
- Thornton, P., & Houser, C. (2002). M-learning: Learning in transit. In P. Lewis (Ed.), *The changing face of CALL: A Japanese perspective* (pp. 229–243). Lisse: Swets & Zeitlinger.
- U.S. Department of Education. (n.d.). *Use of technology in teaching and learning*. Retrieved from <http://sites.ed.gov/oii/use-of-technology-in-teaching-and-learning/>
- White, J. (2011). CALL and the problems faced by the Japanese university system. In E. Forsythe, T. Gorham, M. Grogan, D. Jarrell, R. Chartrand & P. Lewis (Eds.), *CALL: What's your motivation?* (pp. 139–152). Kyoto: JALT CALL SIG.
- White, J., & Mills, D. J. (2014). Examining attitudes towards and usage of smartphone technology among Japanese university students studying EFL. *CALL-EJ*, 15(2), 1–15.
- Yahya, S., Ahmad, E. A., & Jalil, K. A. (2010). The definition and characteristics of ubiquitous learning: A discussion. *International Journal of Education and Development using Information and Communication Technology (IJEDICT)*, 6(1), 117–127.

Appendices

Appendix 1

Teaching with Technology Syllabus

公開用HTML

https://porta.nanzan-u.ac.jp/syllabus/html/2016_30001338.html

英語教育特殊研究(メディアの活用)							
授業コード	31219-901	科目名	英語教育特殊研究(メディアの活用)<国際科目群>			担当者	CRIPPS, Anthony
開講期間	春期	単位数	2	学年	3~4	指定	選
履修対象学科	他学科履修 可						
他の科目との関連	Classes will be conducted in English. 国際科目群 (International Course Category)						
【副題】							
The use of modern technology for teaching English.							
【授業概要】							
1. This course will be delivered using lectures and practical sessions.							
2. This course is designed to help those students who are interested in teaching English.							
3. Students will study numerous themes related to the use of modern technology for teaching English.							
4. Students will expand their knowledge through lectures, discussions, and group work.							
5. Students will be required to complete reading assignments, to demonstrate they have understood the lecture content, and to give presentations in English. They will also be required to write a final report.							
【到達目標】							
By the end of this course students should be able to:							
<ul style="list-style-type: none"> ・ understand the key themes covered ・ conduct detailed research ・ articulate their thoughts on the use of modern technology for teaching English 							
【授業計画】							
1. Introduction							
2. Technology in the classroom							
3. E-learning							
4. MOOCs							
5. Preparation							
6. Presentations							
7. Presentations							
8. Presentations							
9. Using websites							
10. E-creation tools							
11. Preparing for the future							
12. Preparation							
13. Presentations							
14. Presentations							
15. Presentations & reflection							
【授業時間外の学習（準備学習等）】							
Students will be expected to spend at least 3 hours per week studying outside of class in preparation for each lecture.							
Typically a reading and/or task will be assigned for every week.							
【評価方法】							

Appendix 2

Teaching with Technology Semester Outline

2016 The Use of Modern Technology for Teaching English

No.	Date	Details	Notes
1	April 5	<i>Introduction</i> <i>Needs analysis</i>	
2	April 12	Technology in the classroom	Chapter 1
3	April 19	E-learning	Chapter 11
4	April 26	MOOCs	
5	May 10	<i>Preparation</i>	
6	May 17	Presentations	
7	May 21*	Presentations	<i>Saturday class</i>
8	May 31	Presentations	
9	June 7	Using websites	Chapter 3
10	June 14	E-creation tools	Chapter 10
11	June 18*	Preparing for the future	Chapter 12 <i>Saturday class*</i>
12	June 21	<i>Preparation</i>	
13	July 5	Presentations	
14	July 12	Presentations	
15	July 19	Presentations & Reflection	Report Deadline

A. Participation	20%	Presentation 1	20%	Presentation 2	20%	Final Report	40%
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Appendix 3

MOOC Research Explanation

Teaching with Technology Final Report Information

Each student has to submit an **individual** final report. I want you to write an **800-1000 word** research paper based on your MOOC research.

Your research paper MUST include the following elements:

1. A summary of what MOOCs are and the different platforms that are available
2. Your detailed thoughts on your experiences with MOOCs (i.e. What platforms did you investigate? What course or courses did you sign up for? How did you find the course(s)?)
3. Your MOOC diary showing your thoughts and MOOC access
4. A summary of your MOOC experience

Please use appropriate in-text citation and include a bibliography at the end of your report. **You must follow APA guidelines.**

- A preliminary questionnaire will be administered in May re. your choice of platform and your experiences with MOOCs up to that point.

You should submit your final report (in a folder) to me **in our last class.** Make sure that your final report has a cover page which states:

- ❖ Your name
- ❖ Your student Id. number
- ❖ Your e-mail address
- ❖ The subject name (Teaching with technology)
- ❖ The date of submission

Late submissions (unless in special circumstances) **will not** be accepted. Failure to submit your final report on time may seriously affect your grade for the course.

The final report is worth **40%** of your final grade so please make sure you put enough effort into it.

Proofread your report **carefully** before submission. Substandard work will lower your grade.

Please make sure that you have understood these instructions. If anything is unclear please check with me.

Appendix 4

Presentation 1 Information

Teaching English with Technology – Presentation 1 Information

The presentations will take place on the days written on your semester outline. Please read the following instructions carefully and ask me if you need any more information:

- The presentations will be made in small groups
- The presentation length will depend on the number of people in each group
- The presentations can be made using PowerPoint or any other form of presentation method
- The presentation theme should be based on one of the first three lectures
 - Technology in the classroom
 - E-learning
 - MOOCs
- You should include an overview of the theme (this is the academic content)
- Concentrate on the practical application of the topic (i.e. how technology can be used to help teachers and students)
- You **must** make a handout for your audience
- **Do not read** during your presentation
- Try and focus on conveying your information clearly and in an interesting way
- Use examples from the teaching world
- There will be a Q&A session after each presentation and participation will be graded
- Each group is responsible for organizing their own PC and AV leads

Assessment

- This presentation is worth **20%** of your final grade. Half of this grade (i.e. 10%) will be decided by me and the other half will be decided by your peers
- The presentations will be recorded for assessment and research purposes

Notes

Appendix 5

Presentation 2 Information

Teaching English with Technology Presentation 2 Information

The presentations will take place on the days written on your semester outline. Please read the following instructions carefully and ask me if you need any more information:

The presentations will be either group, pair, or individual* (Please consult me*)

- The presentation length will depend on the number of people in each group
- The presentations can be made using PowerPoint or any other form of presentation method
- The presentation information is as follows:
 - Briefly explain what you think about technology in our world and specifically in a learning/teaching context
 - Explain how you would use technology to support learners of English at a Japanese junior or senior high school (choose one)
 - Come up with at least three positive suggestions
- You should include an overview of the theme (this is the academic content)
- Concentrate on the practical application of the topic (i.e. how technology can be used to help teachers and students)
- You **must** make a handout for your audience
- **Do not read** during your presentation
- Try and focus on conveying your information clearly and in an interesting way
- There will be a Q&A session after each presentation. Participation will be graded.
- Each group is responsible for organizing their own PC and AV leads

Assessment

- This presentation is worth **20%** of your final grade. Half of this grade (i.e. 10%) will be decided by me and the other half will be decided by your peers
- The presentations will be recorded for assessment and research purposes

Example structure

1. **Introduction - Technology in our world (10%)**
2. **Technology in a learning/teaching context (20%)**
3. **How would you use technology to support learners? (60%)**
4. **Conclusion (10%)**

Appendix 6

Preparing for the Future Worksheet

Preparing for the Future

Obviously we can only make educated guesses about the use of technology in the field of education in the future **BUT** it is fun to do so based on past & present trends.

What skills do you think teachers and students are going to need in the future?	What existing technologies do you think will still be around 10 years from now?
Teachers Students	
What new technologies do you think will emerge over the next 10 years?	Try to picture how teaching will take place in the future. What role or roles will technology play?