Japanese University Students' CALL Attitudes, Aspirations and Motivations

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Abstract

CALL is now an accepted and important part of Japanese university language curricula. It is often perceived however, that students lack the necessary competencies to deal with Information and Communication Technology (ICT) (Castellano et al., 2011) and this can make the everyday use of CALL activities seem a challenge for educators (Lockley, 2011b). These students are part of the "digital native" (Prensky, 2001) generation, and should be used to technology framing their world, so does this apparent mismatch really exist and if so why? The study reported in this article presents quantitative and qualitative survey data (N=105) which shows that students, despite often being initially hesitant with unfamiliar equipment, have an overwhelmingly positive attitude to the use of ICT in class, are willing to overcome difficulties and understand the pedagogical benefits of CALL. It discusses the findings from a practical point of view with the further incorporation of CALL into Japanese universities in mind.

INTRODUCTION

Increasing numbers of educators in Japan are aspiring to work with computers and related technology in their classrooms and more and more universities are aspiring to show that they have state-of-the-art equipment so as to attract potential students. This would seem to be highly beneficial from the perspective of transferable skills for students, the motivation of authentic language resources and the increased efficiency which comes with having well established resources online. However, it has been noted that there is often a mismatch between teacher and student expectations. Teachers, particularly those with wide experience of CALL, aim to use technology in their own way, with a certain pedagogical or technological understanding of its utility, whereas students, coming from different technological backgrounds, generations and cultures often seem perplexed when faced with a computer for the first time (Castellano, Mynard, & Rubesch, 2011; Williams, 2011). This differs little from major studies in the current international context which show there are considerable questions about the ability of this so called "digital native" (Prensky, 2001) generation to adapt their undoubted social ICT skills to the educational sphere (see for example Bennett, Maton, & Kervin, 2008; Brown & Czerniewicz, 2010). "Prensky's claims have in fact been attacked as misleading, simple assumptions or crude generalizations" (Lockley, 2011b). Brown & Czerniewicz (2010) wrote that Prensky's work approached ethnocentricity in that he seemed to be treating the whole world and the North American context as one and the same thing. There is of course value in looking at the larger international context, and there may be many similarities between countries, however the authors

feel it is also important to be more specific, to concentrate on individual national and even regional contexts where appropriate. This study will focus on Japan in an attempt to add to the relatively small amount of literature that seems to have been published to date.

To mitigate the above mentioned mismatch between student and educator and advance the practice of CALL in Japanese university classrooms, it is clearly imperative that educators understand students' technology culture, their previous experiences, their attitudes, motivations and aspirations to and for using Information and Communications Technology (ICT) in class. The relative lack of research in the Japanese educational context needs to be remedied so as to ensure that dwindling funds and expanding pedagogical opportunities are not wasted. As Boulton, Chateau, Pereiro and Azzam-Hannachi (2008) write "ICT is not suitable for all purposes for all learners in all situations, and may require some considerable learner training for effective use"; it is "important to understand the *nature* of the technology-based activities in which young people engage" (Bennett & Maton, 2010, p. 323) to be able to advance the use of ICT in education. This article will look at the Japanese university students' engagement with technology in a variety of spheres and answer the following question: *What do students desire and how can educators provide it to further the normalisation of CALL in Japanese universities?*

LITERATURE REVIEW

ICT in Japanese Society

Japan is a country which might be described as saturated with technology and electrical gadgets, from toilet seats to mobile phones. The latest houses even incorporate fully integrated home entertainment, security and appliance systems. Indeed 87.2% of Japanese own a computer and 67.1% of households are online (OECD, 2010); ranking Japan high among developed OECD countries for computer ownership but only middling for traditional fixed internet connections.

There is a consensus in the literature that this may be affected by the advanced level of mobile phone (*keitai*) technology and its high proliferation in Japanese society (Mito & Ono, 2008; Okuyama, 2009; Takahashi, 2008; 2011). With a virtually 100% mobile phone ownership and the largest number of 3G mobile phone users in the world (MIC, 2009), these *keitai* have given rise to a generation called 'keitai natives' with their own *oyayubibunka*, literally 'thumb culture'; a reference to the constant use of mobile social networking and email (Takahashi, 2011). These 'keitai natives' have made mobile phones central to their youth cultures and social groups, many owning more than one handset to use for different purposes. The 'keitai native' is a Japanese variant of the 'digital native' (Prensky, 2001), the supposed members of a global generation born into the internet age. There is considerable debate as to whether 'digital native' itself is an empirically valid concept (see for example, Bennett & Maton, 2010; Brown & Czerniewicz, 2010) but regardless of its validity, there is a large consensus in the wider global and Japanese literature that, while this generation are expert users of ICT for social purposes, they often seem to lack the ability to transfer these skills to the academic sphere (Bennett & Maton, 2010; Nasah, DaCosta, Kinsell, & Seok, 2010; Williams, 2011).

In the early years of this decade, there was strong suggestion in the literature (see for example Cosgrove, Zastrutzki, & Shiel, 2005; Mito & Ono, 2008) that Japan had lagged behind in ICT

skills and lacked computer confidence. Mito and Ono (2008) suggested that the fact that the internet has until recently been mainly in the English language had deterred Japanese people in general from web usage compared to those who are more confident in their English usage. There is however some evidence that this is changing, particularly in the realm of the more proactive online activities, such as blogging and micro-blogging. For example, 8% of the US population is on Twitter, but a full 20% of the Japanese population tweets, accounting for 14% of the global total (Akimoto, 2011). During the Great Northeastern Disaster in March 2011, the Prime Minister's Office, the Ground Self-Defense Force (Army), Tokyo Electric Power Co. and other public bodies used Twitter constantly to inform the public of the latest updates and warnings (Akimoto, 2011). Furthermore, social networking and use of *keitai* for internet in Japan goes beyond the merely social and is inter-generational (MIC, 2009), with people of all ages using them for a large variety of purposes.

ICT in Japanese Schools

In senior high schools, the Ministry of Education, Culture, Sports, Science and Technology (MEXT), promulgated a new curriculum area called Information Studies with three strands, A, B and C in 2003 (MEXT, 2006). Information Studies A teaches basic ICT skills such as word processing, spreadsheets and PowerPoint. B looks at the scientific side of ICT, including hardware and software, operating systems, and network functioning. C includes the social issues that arise from ICT and its role in business, government and the social services. All senior high schools should offer at least one of these (MEXT, 2006).

Despite the earlier findings of low ICT competence and confidence in Japanese schools (Cosgrove et al., 2005), there is now some evidence that the situation may be improving. A recent OECD report found that Japanese students ranked 4th out of 19 developed countries, behind South Korea, New Zealand and Australia, in digital competencies. The data was collected from 3,400 16 year old students in 109 senior high schools nationwide, and assessed students' digital reading performance, their ability to evaluate internet based information and assess its credibility (Kyodo, 2011) ; all skills characteristic of 'keitai natives.' It should be noted however, that it did not include skills such as typing or use of programs such as PowerPoint, skills directly relevant to this study, characteristic of academic or business use of computers, and those that should have been taught in secondary education. This could indicate that schooling alone is not responsible for this high performance, but it at least shows that Japanese students have improved their ICT performance.

Lockley (2011a) found that 98% of the students in the university where this study took place use computers at home at least once a week, 89% used them at school prior to university and 86% used computers outside of school. Analysis of qualitative comments found that although almost all students were conversant with ICT, many lacked confidence or in-depth understanding of software applications. Lockley (2011a) recommended that a short refresher course in simple ICT applications and "ICT in English" be enacted in the early weeks of semester one for university freshmen.

CALL in Japanese Universities

One of the original reasons for this study was that there is a belief among many educators in

Japan that their students are not able to use technology sufficiently to engage with CALL and internet based authentic language materials (Castellano et al., 2011; Williams, 2011); "some teachers even refuse to use computers in class, believing that they will have to waste time teaching students the very basics such as how to plug in a laptop" (Lockley, 2011a, p.94).

However, while there are certainly many problems apparent should these be entirely unexpected? Bennett et al. (2008) argue that the evidence in the 'digital native' debate points to the fact that "technology plays a different role in students' home and school lives" (p. 781) and may not be transferable in the way that many educators assume. Lockley (2011b) concurred, finding that the real issue may not be lack of ICT knowhow or motivation, but actually in a host of other areas. They were socio-cultural; in the fact that students were unwilling to look too 'clever' in front of others. Hardware based; students were encountering ICT in English for the first time and they were often unfamiliar with the particular models, e.g. laptops or Apple Macs, employed by universities. Finally they were time based; the skills that students had learned during their previous schooling had been allowed to rust over the final year of senior high school when students spend a lot of time revising on their own for entrance exams, rather than in timetabled lessons (Lockley, 2011b).

Kobayashi and Little (2011) found that three quarters of students in their study believed that their ICT skills were sufficient to access a blended learning course in English, although 60% were not confident in their computer skills upon entering university. In their description of the operation of a blended learning course, they found that design of interfaces is very important to allow students to use programs easily. Williams (2011) reported that students were initially unable to operate unfamiliar hardware (as in Lockley 2011a), but were conversely confident in their ICT abilities in general and it did not take them long to become accustomed.

Social Networking is increasingly being used within a CALL setting as websites such as Facebook, Twitter and blogging sites give opportunities to communicate and engage with others' communications in an authentic and real-time manner. Kikuchi and Otsuka (2008) reported on students reactions to these applications, finding that of their 92 students, 67% viewed social networking use positively (blogging in this case) in their English classes. 61% also commented negatively, suggesting that many students see both positives and negatives. The chance to make new friends online was highly valued as was the opportunity to increase general ICT skills. Students were surprised by how proficient their classmates ICT skills were, expecting them to be lower. Promnitz-Hayashi (2011) in her study of 27 Japanese freshman students of English and their use of Facebook, similarly found that social networking can be advantageous when introduced into students' education. The students were unfamiliar with Facebook and were cautious initially, however at the end of the course students agreed that they enjoyed using social networking and found it easier to state their opinions and 'converse' with their classmates online rather than face-to-face.

METHODOLOGY

This study was based on questionnaire data collected in June 2010 from 105 first year students at a private foreign languages university in Chiba, Japan. 66% of participants were female and all

were enrolled in either the English or International Communication departments. The questionnaire (see Appendix 1) was conducted online in both English and Japanese. The data collection tool was created from the findings of research conducted by Langdon (2011) to investigate learner perceptions of the influence of technology in EFL classrooms. In his study, learners kept a technology use log for a week, logging every interaction with technology. These logs were followed up by Langdon in in-depth individual interviews.

The questionnaire collected data on various aspects of participants' technology usage, requiring a quantitative response to data scale based questions and simple yes/no answers; qualitative comments were also collected. These were coded through a flexible qualitative coding process that allows for the gradual addition, aggregation, and/or bifurcation of categories depending on the data analyzed (Seliger & Shohamy, 1989). This avoids forcing answers to fit predetermined categories and allows for the data to create its own organic meanings.

Follow up interviews were finally conducted with 20 participants (females n=13, males n=7) of both varying English language and ICT proficiencies. Participants were divided into three groups based on their English proficiency in order to avoid the less proficient students feeling intimidated and allowing them to speak freely. The interviews were semi-structured and although students were asked specific questions regarding their ICT motivators, demotivators and CALL aspirations, they were free to discuss them in an informal manner. While this article focuses on Japanese students' ICT experience at university, two papers derived from this same study, were previously published on students' *pre*-university experience (see Lockley, 2011a; 2011b). However all of the data presented in these findings is previously unpublished.

FINDINGS

Table 1 shows that all students use computers every week at university and other types of technology are used less frequently. 73% are using DVDs at least once a month, 62% using voice recorders and 57% using CDs. Mobile phones are used by 79% of students at least once a month with many using them to check their email, contact classmates or email their teachers.

Table 1
What type of technology do you use at university?

	Computer	Mobile phone/I phone	I-pod	TV	MP3	DVD	CD	Voice Recorders
Every day	56%	72%	24%	22%	12%	4%	5%	1%
Several times a week	39%	2%	6%	9%	7%	9%	12%	3%
Once a week	8%	5%	8%	10%	8%	20%	19%	18%
Once a month	0	0	8%	8%	7%	40%	21%	40%
Never	0	21%	55%	51%	67%	27%	43%	38%

Figure 1 shows that 83% of students would like to use computers on a weekly basis, 52% twice a week, and 14% want to use them only once a month. However, overall, 98% are happy with

using ICT in class. This compares well with the 80% of participants (Figure 2) who enjoy using computers in class, while others are perhaps not enjoying their use, but clearly recognising their educational necessity and utility. This overwhelming positivity towards computers is despite 31% reporting difficulties using ICT (Figure 3).

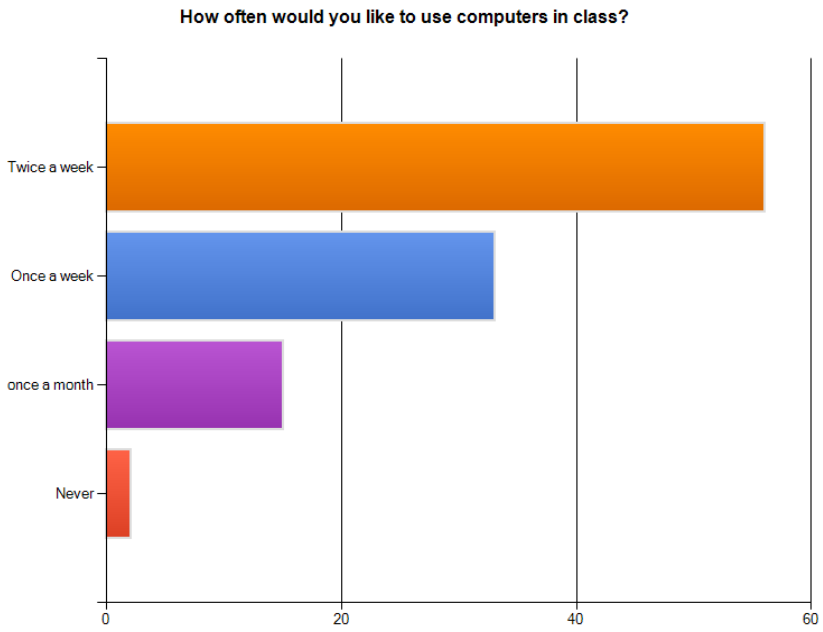

Figure 1. How often students would like to use computers in class.

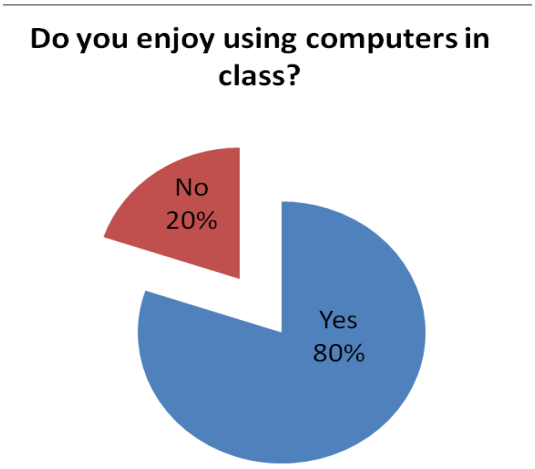

Figure 2. Enjoyment of computers use.

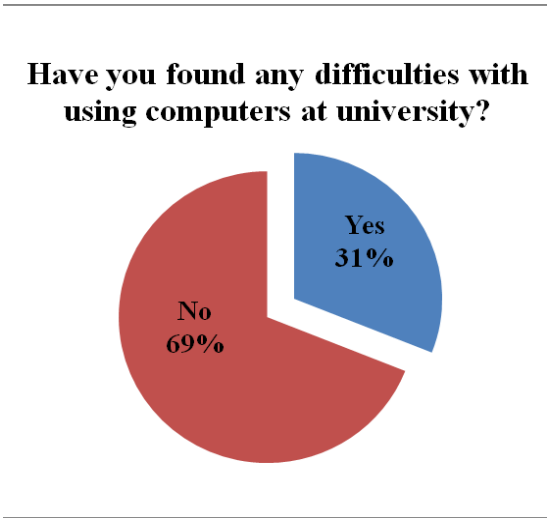

Figure 3. Difficulties in class.

Figure 4 shows what participants have used their home computers for. 30% have used Word and

YouTube at home, but all of the other possible applications are reportedly very low, including social networking and email. None have played games or used PowerPoint on their home computers.

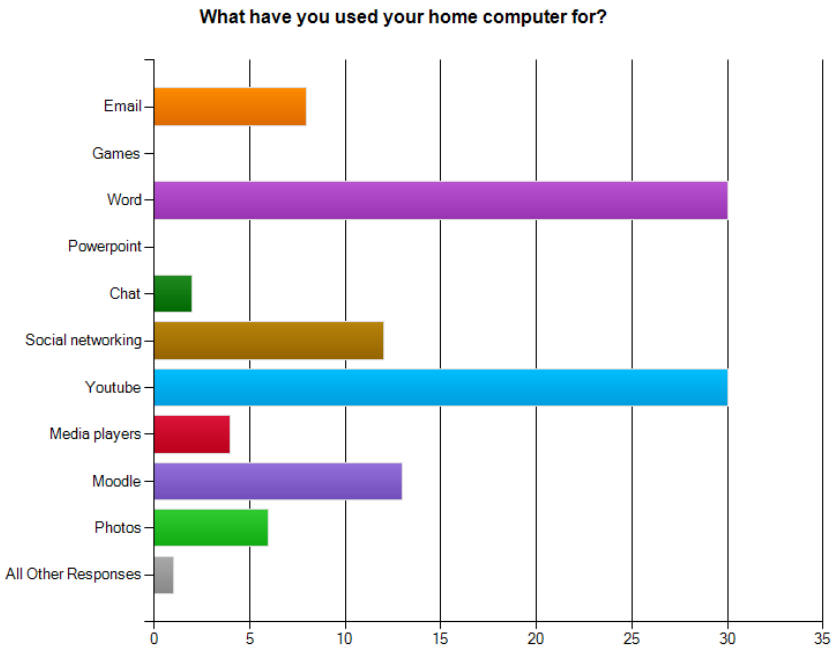

Figure 4. Home computer use.

What do Students want to do in Class?

Table 2 reveals that students have mixed and varied opinions about software and net-based applications they would like to use in class. Multimedia applications were the most popular, with music (MP3) and video (MP4) both scoring over 50%. More traditional educational use applications, Moodle, Word, internet searches and PowerPoint all score in the 30-40 percentile while Web 2 applications such as YouTube, Social networking, Blogs, Twitter and wikis score 50%, 41% and 19% respectively. More creative uses of ICT, such as movie making and podcasts, did not score well, with 17% and 10% respectively. This suggests that students are equating ICT use and utility mainly with digital media and web-based applications.

Surprisingly, given the amount of students who reported using mobile phones in university, only 9% would actually like to use them in for educational purposes, suggesting perhaps that they are using mobile phones for social ends, even if they are doing so in class. Takahashi (2011) had similar findings.

Table 2

What kind of technological activities would you like to do in class?

Utility	Percentage desiring in class use
Music	54.7%
Videos	52.8%
Moodle	51.9%
YouTube	50%
Internet searches	49.1%
Chat, Skype, email to people outside university	42.5%
Social networking, Blogs, Twitter	40.6%
Word	39.6%
Power point	36.8%
Games	33%
Wikis	18.9%
Making movies	17.9%
Adaptive learning environments	10.4%
Podcasts	9.4%
Automated response bots	8.5%
Mobile phones as an educational resource	8.5%
Other	1%

QUALITATIVE DATA

Positive

There were 83 answers to the question "what do you enjoy doing on computers and why?". During classification, four clear categories emerged. 1) 38 (46%) mentioned that they liked using ICT for its general study support or CALL facilities, for example, "I enjoy using computer for Facebook or research something. It is easy to find information and I enjoy chatting with my classmates or teacher". And "I can learn many thing about world from teacher with using computer". 2) 27 (36%) reported that they liked using computers for the skills that they learned or were able to practice, for example, "I can improve my computer skills so it's fun for me" and "I can improve my computer skills and English at the same time". 3) 13 (17%) mentioned specific online programs and applications such as YouTube or blogs as the main reason they liked using computers in class; for example, "E-mail, journal, chat, game. Because, I can communicate many friends and develop my ability". The final five comments gave no specific information beyond the fact that the respondents enjoyed using computers.

Negative

Positively from the point of view of this study, few students (n=22, 21%) chose to make a

negative comment, but three categories emerged. 1) I am not good at computers, indicating that the reason for negativity was firmly to be found with personal shortcomings; this was indicated by 12 participants (55% of respondents to this question). For example, "I can't use computer well so if we use it in class I usually fall behind others". 2) I dislike computers, placing the blame at the door of the technology itself; this was indicated by 7 participants (32%), for example, "because if you use computer you feel sleepy and sometimes tired" and "it is boring". 3) It takes a lot of time to use computers and this outweighs any benefit, 2 (9%). Students stating "It is hard for me to use computer and it takes a lot of time to type" or "It takes a while to get ready".

INTERVIEW DATA

The follow-up interviews produced interesting data which showed that the less linguistically proficient students appeared to have more difficulty using computers in class. They found the US English keyboards and software difficult to use and took time to become accustomed to them. Despite the problems, they enjoyed using technology in class, particularly activities such as, YouTube, social networking (Facebook), chat and Hot Potato activities in Moodle.

The more linguistically proficient students appeared to be more comfortable with ICT use. They enjoyed more solitary activities such as internet research and they did not enjoy using social networking or chat in class as they felt they were activities for outside the classroom. All students interviewed did however agree on what they would like to do in class; all of them would like to spend more time on PowerPoint and word-processing. As students are required to do presentations in their classes and write essays, they felt that these skills would be beneficial to them academically.

DISCUSSION

The data shows an overwhelmingly positive attitude to computers and ICT technology among the participants in this study. This was perhaps unexpected, given the perceived lack of ICT proficiency among the participant population. It also appears to contradict Bennett at al. (2008) who reported that many 'digital natives' did not actually want to use technology for pedagogical purposes.

All students are using computers in class on at least on a weekly basis. Not all enjoy using this technology and one third reported problems with the use of computers in class though these did not detract from the perceived utility and importance of ICT. The large majority, 69%, who reported no problems, seems to contradict the common educator perception that students 'can't do technology'. That only a very small percentage of the qualitative comments reported that they 'were no good with computers', must also give weight to this finding. These findings concur closely with Williams (2011); her questionnaire data being much more positive than anticipated from previous perceptions.

DVDs and CDs were reported to be used by a majority of students on a monthly basis, showing that non web-based authentic materials are also popular; the internet is not quite dominating all

spheres of life among these students yet. Voice recorders were also reported to be used regularly, showing that ICT is allowing students to autonomously reflect on their speaking performances, these findings concur closely with Castellano et al. (2011).

Computers are appreciated most for the way they can support language studies, to research information on the internet, to aid/enable communication in English and give access to authentic resources online. They are also appreciated for the ability to improve general ICT skills such as typing. Very few students could actually articulate any negative aspect to using technology in the classroom, and the majority of those admitted it was because they believed themselves to be 'not good with computers'.

Home ICT use was quite low, though higher than that reported by Williams (2011). Word and YouTube were the most popular uses, but these only accounted for 30% of participants; social networking was hardly engaged in on home computers, despite the fact that we know this population uses these social media constantly. This probably reflects the fact that participants are characteristic of the 'keitai native' in that they are more comfortable using mobile technology.

What students actually desired was varied. Multimedia uses of ICT came out with the largest percentages, suggesting that engaging with authentic, but entertaining rather than more serious resources were foremost in these student's minds, particularly the less language proficient students. Internet based resources consistently scored at the 40% level; the potentially more passive ones, YouTube, Moodle and web searches were desired by approximately half of participants, particularly the more language proficient students. The more active, communicative applications, blogs, social networking, chat/skype/email came in slightly lower and were more popular among lower proficiency students. This concurs with some of the international literature on 'digital natives', which finds that "with the exception of social networking, most activities associated with Web 2.0 are engaged in by a minority of respondents on key large-scale surveys" (Bennett & Maton, 2010, p.324). There is "as much variation *within* the digital native generation as *between* the generations" (Bennett et al., 2008, p.779). However, there are signs in all the data that students are not only using the internet as a source of authentic or entertaining material, but also to reproduce their English in either a spoken or written form. This active use of computers is one of the mainstays of CALL and it is heartening to see students appreciating ICT for its CALL possibilities.

Among more traditional uses of ICT, PowerPoint and Word were most popular among more language proficient students, suggesting that they were thinking more about transferable skills and academic utility; 36% of the qualitative comments also mentioned these programs. The participants in this study were first year students and maybe they are not yet thinking about the world of work, where such skills would likely enhance employability. Perhaps more senior students would, in general, hold different views.

Although these 'keitai natives' use their mobile phones extensively, typically 24 hours a day according to a case study by Takahashi (2011), few of them desire to use their phones educationally. This is a surprising finding particularly as so many admit to actually using them in class and as Takahashi (2011) notes, many corporations are investing heavily in educational software for keitai, presumably on the assumption that it will reap financial rewards. The mismatch here must be that students are continuing the social use of their phones in class;

Lockley (2011a), found that students had used their mobile phones extensively in senior high school lessons but not for educational purposes; Takahashi's (2011) data also suggested this.

In a recent study though, Barrs (2011) found 15/20 students had used their Smartphones for CALL purposes including using the camera to record information written on a white/black board, the voice recorder to practice speech performance, flashcards apps and news apps such as BBC and CNN. Four of the remaining 5 who owned Smartphones wanted to find out more about how they could use them for CALL. These results are Smartphone specific and may suggest that this new generation of mobile devices lends themselves more to CALL that the traditional keitai. The findings of this study, however, may indicate that these students do not want technology they use daily to be "adopted or appropriated as *learning technologies*" (Kennedy, Krause, Gray, Judd, Bennett, Maton, Dalgarno, & Bishop, 2006).

IMPLICATIONS

How can educators make use of this information to ensure that CALL is being used to its best advantage? There is clearly not any reason, certainly within this research context, to think that students cannot or will not use ICT, so if educators are perceiving a hesitation on the part of students, it must be lack of familiarity and lack of confidence, coupled with not wanting to 'show off'. As Kikuchi and Otsuka (2008) noted, when students actually observe each others' skills, they are surprised by how good they are. This hesitation to outwardly display knowledge is a characteristic of the Japanese educational context (Aspinall, 2006); "in the early stages of learning a subject or skill [students] are also encouraged to be aware of what they do *not* know" and "it is considered immature and bad manners for the learner to 'show off' something they have learned, or be ostentatious in any way" (p. 263). This could account for the mismatch in educator perceptions and students' experiential fact found in this article, Lockley (2011b) and Williams (2011).

Universities should furthermore be extremely careful not to just expect that students can 'transfer' ICT skills from extensive social media use and mobile phones to the more formal academic sphere. Indeed "current research suggests that [the extent to which skills can be transferred from everyday technology based activities to academic context] is likely to be highly variable" (Bennett et al., 2008, p. 779) and Williams (2011) writes "even though these students have grown up in the digital world, and in general may be considered to have knowledge of these different technologies, students may have had different levels of interaction with said technologies, some more adept than others" (p. 89). After all, a person would not be expected to simply pick up a trumpet and produce beautiful music, even if they are an expert trombone player. Why then should educators expect expert mobile phone users to be able to type quickly and intuitively perceive the possibilities of a new computer application? Could this be 'digital immigrants' (Prensky, 2001) assuming all 'digital natives' are highly proficient in the language of Digital, let's call it 'digitalian', as some non-native speakers of languages assume that all native speakers must know every word?

It is also important to demonstrate the practical objectives and possible real-world uses of ICT beyond language learning to students, as the data suggest that these may not be perceived by

some, particularly those with lower language proficiency. It is easy to see the pedagogical use of typing but is it as obvious to students why making a movie or using a voice recorder to reflect on speaking performances might contribute to advances in their language learning? Before undertaking any activity or training students in a new program it should be considered how best to show them that this use of their time and energy is worthwhile and how it will enhance their overall language learning goals.

There appears to be relatively little research into this area, therefore as the digital world moves increasingly towards mobility and less traditional platforms such as the I-pad and m-learning, there is a clear need for empirical and action research into how best to facilitate the transfer of skills between ICT platforms and the educational and social worlds. Where necessary curriculums may need to undergo quite profound changes and styles of teaching and learning may also need to be drastically reconceived from the current status quo (Ito, Horst, Bittanti, Boyd, Herr-Stephenson, Lange, Pascoe, & Robinson, 2008). "What, […] would it mean to really exploit the potential of the learning opportunities available through online resources and networks? What would it mean to reach beyond traditional education and civic institutions and enlist the help of others in young people's learning?" (Ito et al., 2008, p. 2). Sadly the answer to that question is beyond the scope of this study, but it is hoped that someone, somewhere, will be in a position to venture some possible answers within the near future.

CONCLUSION

The limitation of this data is that the population of this study was small and data was collected on only one site. Larger scale studies need to be carried out, ones that make use of inferential statistics such as regression analysis, to provide further theoretical and pedagogical guidance. Future research should also conduct studies that place the Japanese context firmly within the global picture. However despite its limitations, what this data shows is that the Japanese university students surveyed are pro-technology and support its use in class. They are generally willing to see ICT as both an educational tool and a skill to be learned for use in future life; it is an integral and recognised part of their university language education.

Whatever the perceived weaknesses in ICT competence, the basic skills are clearly present, and experience and this study shows that students will acclimatise to novel uses when they are confident that other students are at a similar level, when they are given ample time to familiarize themselves, and when they are given enough support; without this student training and patience on the part of the educator it is probable that the mismatch between student and educator will be perpetuated. Universities and individual teachers should support students in their ambitions through incorporating appropriate and well thought through uses of technology into curricula. This will not only allow the creation of a supportive and stimulating language learning environment, it will help prepare students for the workplace and the place of technology in their future lives, in whatever form it appears.

REFRERENCES

Akimoto, A. (2011, May 18). Japan the Twitter nation. *The Japan Times*. Retrieved 18 May, 2011 from http://search.japantimes.co.jp/cgi-bin/nc20110518aa.html

Aspinall, R. (2006). Using the paradigm of 'small cultures' to explain policy failure in the case of foreign language education in Japan. *Japan Forum, 18(2),* 255-274.

Barrs, K. (2011). Mobility in learning: The feasibility of encouraging language learning on smartphones. *Studies in Self-Access Learning Journal, 2(*3), 228-233.

Bennett, S., Maton, K., & Kervin, L. (2008). The 'digital natives' debate: A critical review of the evidence. *British Journal of Educational Technology, 39(5),* 775–786.

Bennett, S., & Maton, K. (2010). Beyond the 'digital natives' debate: Towards a more nuanced understanding of students' technology experiences. *Journal of Computer Assisted Learning, 26(5),* 231-331.

Boulton, A., Chateau, A., Pereiro, M., & Azzam-Hannachi, R. (2008). Learning to learn languages with ICT- but how? *CALL-EJ online, 9*(2). Retrieved 30 September, 2011 from http://callej.org/journal/9-2/boulton.html

Brown, C., & Czerniewicz, J. (2010). Debunking the 'digital native': beyond digital apartheid, towards digital democracy**.** *Journal of Computer Assisted Learning, 26(5),* 357–369.

Castellano, J., Mynard, J., & Rubesch, T. (2011). Technology use in a self-access centre. *Language Learning and Technology, 15(5),* 12-27.

Cosgrove, J., Zastrutzki, S., & Shiel, G. (2005). A survey of ICT in post-primary schools. *The Irish Journal of Education, 36,* 25-48.

Ito, M., Horst, H., Bittanti, M., Boyd, D., Herr-Stephenson, B., Lange, P., Pascoe, P., & Robinson, L. (2008). Living and Learning with New Media: Summary of Findings from the Digital Youth Project. *The John D. and Catherine T. MacArthur Foundation Reports on Digital Media and Learning*. Retrieved 14 January, 2012 from http://digitalyouth.ischool.berkeley.edu/files/report/digitalyouth-TwoPageSummary.pdf

Kennedy, G., Krause, K., Gray, K., Judd, T., Bennett, S., Maton, K., Dalgarno, B., & Bishop, A. (2006). Questioning the net generation: A collaborative project in Australian higher education. *Proceedings of the 23rd annual ASCILITE conference,* Sydney. Retrieved 30 August, 2011 from http://ascilite.org.au/conferences/sydney06/proceeding/pdf_papers/p160.pdf

Kikuchi, K., & Otsuka, T. (2008). Investigating the use of social networking services in Japanese EFL classrooms. *JALT CALL Journal, 4(1),* 40-52.

Kobayashi, K., & Little, A. (2011). Learner perceptions on the usefulness of a blended learning EFL program. *JALT CALL Journal, 7(1),* 103-117.

Kyodo. (2011, June 29). Japan fourth in digital literacy test. *The Japan Times*. Retrieved 29 June, 2011 from http://search.japantimes.co.jp/cgi-bin/nn20110629b5.html

Langdon, C. (2011). Good technology does not necessarily equal good pedagogy – an investigation into the educational efficacy of technology in EFL. *Research Institute of Language Studies and Language Education, 21,* 21-37.

Lockley, T. (2011a). Japanese students' experience of ICT and other technology prior to University: A survey. *JALT CALL Journal, 7(1),* 93-102.

Lockley, T. (2011b). Pre-university experience of ICT and Self-Access Learning in Japan. *Studies in Self-Access Learning Journal, 2(3),* 182-194.

Ministry of Education, Culture, Sports, Science and Technology (MEXT). (2006). 学校における

情報教育の実態調査の結果 [The results of a survey on the current situation of ICT in schools]. Retrieved 30 August, 2011 from http://www.mext.go.jp/bmenu/houdou/18/07/06072407.htm

Ministry of Information and Communications (MIC). (2009). Publication of the 2009 White Paper "Information and Communications in Japan.". *Communications News, 20(10),* Retrieved 25 August, 2011 from http://www.soumu.go.jp/main_sosiki/joho_tsusin/eng/Releases/

Mito, A., & Ono, H. (2008). The diffusion of mobile Internet in Japan. *The Information Society, 24*, 292–303.

Nasah, A., DaCosta, B., Kinsell, C., & Seok, S. (2010). The digital literacy debate: An investigation of digital propensity, information and communication technology. *Educational Technology Research and Development, 58(5),* 531-555.

Organisation for Economic Cooperation and Development (OECD). (2010). OECD key ICT indicators. Retrieved 26 August, 2011 from http://www.oecd.org/document/23/0,3343,en_2649_34449_33987543_1_1_1_1,00.html

Okuyama, Y. (2009). Keetai Meeru. Younger People's Mobile Written Communication in Japan. *Electronic Journal of Contemporary Japanese Studies*, Retrieved 12 September, 2011 from http://www.japanesestudies.org.uk/articles/2009/Okuyama.html.

Prensky, M. (2001). Digital natives, digital immigrants. *On the Horizon, 9(5),* 1-6.

Promnitz-Hayashi, L. (2011). A learning success story using Facebook. *Studies in Self-Access Learning Journal, 2*(4), 309-316.

Seliger, H., & Shohamy, E. (1989). *Second language research methods*. London: Oxford University Press.

Takahashi, T. (2008). *Japanese young people, media and everyday life, towards the internationalizing of media studies.* In K. Drotner & S. Livingstone (Eds.). *International handbook of children, media and culture* (pp. 413-430). London: Sage.

Takahashi, T. (2011). Japanese Youth and Mobile Media. In M. Thomas (Ed.). *Deconstructing digital natives* (pp. 67-82). NY and London: Routledge.

Williams, V. (2011). Digital divide among "Digital Natives". *Studies in Humanities and Cultures, 14,* 78-91.

Appendix 1. Questionnaire, English Version

1) First Name
2) Family Name
3) Student number
4) Class name
5) What types of technology do you use at home?
How often-every day /several times a week / once a week / once a month / never
Computer Mobile phone I phone I-pod TV MP3 DVD CD

6) Please explain….
7) Did you use technology at school before coming to university, Tick as many as are applicable.
At Elementary school At Junior high school At High School

8) Please explain….
9) What type of technology did you use at school before coming to university? (e.g. in class, preparation for class, homework)
How often-every day / several times a week / once a week / once a month / never
Computer Mobile phone I-pod TV MP3 DVD CD TV Voice recorders

10) Please explain…..
11) What type of technology do you use at university? (e.g. in class, preparation for class, speaking journals, other homework)
How often-every day / several times a week / once a week / once a month / never
Computer Mobile phone/I phone I-pod TV MP3 DVDCD TV Voice recorders

12) Please explain…..
13) Did you use computers before coming to university, but not in school? (for example at home, in an internet café, in a friend's house)
14) Please explain …….
15) Have you ever used technology to study English before? (for example through a website, language software, making films, communicating with native speakers by email/social networking sites like Mixi or facebook, Skype)

16) Please Explain:
17) What have you used your home computer for?
Email Games Word processing (writing) Powerpoint Chat Social networking (Mixi, Facebook,Twitter, Myspace) Youtube – online video streaming
Media player (music, radio, film, dramas) Moodle Photos Voice Recorders

18) Do you enjoy using computers in class?
Yes No
If yes go to 19.
If no go to 20.

19) What do you enjoy doing and why, please write as much as possible.

20) Why don't you like it, please write as much as possible.
21) Have you found any difficulties with using computers at university?
22) Please explain ……..
23) How often would you like to use computers in class?
every class/ twice a week / once a week / once a month / never

24) What kind of activities would you like to do on the computers in class?
Moodle
Power point (to make presentations)
Social networking, Blogs, Twitter (to communicate with people)
Youtube and online streaming (to watch video)
Youtube
Games (to entertain, sometimes for educational resources)
Word (to write)
Music (to listen to for entertainment and educational reasons)
Videos (to watch for entertainment and educational reasons)
Wikis (to collect and modify information)
Making movies/Vodcasts (for educational reasons)
Podcasts (making speech programmes for educational reasons)
Internet searches (to find out information)
Internet chat/Skype/email (to talk with people outside the university)
Automated response bots (conversations with a robot online to find out information)
Adaptive learning environments (computer gives feedback on work you have done)
Educational application on mobile phones (using mobile phones to help you learn)
If other please explain…….

25) Would you be happy to take part in a discussion about your experience of technology to help this research?