

The perception of the influence of technology in education among learners and teachers

Craig Langdon

Abstract

The role of technology in language learning continues to evolve and expand at a rapid pace. This research investigates whether the needs of students and teachers are being met and their abilities utilized in a university context. The research attempts to determine the current abilities and future needs of students throughout their time at university. With an additional focus on the abilities and expectations of teachers in the same environment, a comparison is drawn between the two groups.

Introduction

It is hard to imagine a language class in the future which is not in some way affected by the influence of technology. Due to the pivotal position of technology in modern societies, the role it plays in education will continue to expand and develop throughout the 21st century.

This influence in the classroom may be a deliberate act on the part of the teacher to include a subject such as Information and Communications Technology (ICT) into the curriculum. ICT is defined as the combination of informatics technology with other related technologies, specifically communication technology. Many institutes and organizations have taken the view that ICT will be used, applied, and

integrated in activities of working and learning in the future (Anderson, 2002). From this standpoint, technology is a separate subject in its own right and should therefore be studied as an independent content based course. For proponents of this viewpoint in applied linguistics, the study of ICT will enable students to better learn language through their expertise with technology.

Bax (2003) argues for the need for technology to be 'embedded in everyday practice and hence 'normalised'.' He states that computers need to be invisible and as commonplace as a pen in order for them to be used by teachers and students 'without fear or inhibition, and equally without an exaggerated respect for what they can do.' From this perspective, technology supports the learner but does not become a subject in its own right.

In the arena of second language instruction, computers can enable learners to interact with others and become engaged in lessons in what may be new and meaningful ways (Warschauer, 2006). By making use of computers, teachers are able to provide the opportunity for learners to communicate in ways which are simply not possible without the assistance of technology. An example would be the use of Skype, a software application that allows users to make voice calls over the Internet. While this software has not been designed for language learners, it has been used to enable learners to communicate in ways which would not be possible without both the software (Skype) and the hardware (computer, microphone, internet access, etc.).

De Szendeffy points out that many language-learning software programs are

marketed as tools for learning a new language which can stand alone (2005). While these programs may claim to create a 'syllabus of dreams', the unfortunate reality is that they often fail to live up to the manufacturer's claims (M. Kershaw, personal communication, November 18, 2010). While many software packages may contain good self-access material to help learners practice on their own, they do not always encourage students to interact either with each other or with the instructor in the target language and are therefore unlikely to fit well into a course's curriculum (Swain & Lapkin, 1998).

The integration of technology into education will require a focus on human needs, strategies, perceptions and experiences while communicating and collaborating in both cyber-learning environments as well as more traditional classroom environments (Wang, 2001). This does not mean that the choice of a particular type of hardware or software will not have a significant effect on the success or failure of the integration of technology in education. What it does mean is that the technical specifications of hardware or software will not provide enough information for decisions to be made on their purchase, integration into the curriculum, and successful use by teachers and learners.

At Kanda University of International Studies (KUIS) there are 10 blended learning spaces (BLSs) in which teachers have the most control over the amount of time spent with the computers in use. These classrooms can help teachers 'blend technology into their everyday pedagogy' (English Language Institute Handbook, 2009).

Oliver and Trigwell (2005) provide a critical analysis of the term 'blended learning' and state that there is 'little merit in keeping the term'. They claim this is because it is either inconsistently applied or redundant because it 'attributes to learning something that, in terms of what we know, only applies to teaching or instruction'. They suggest that the emphasis should shift 'from teacher to learner, from content to experience and from naively conceptualised technologies to pedagogy' (Oliver & Trigwell, 2005).

Researchers at KUIS have been looking at the integration of technology into the curriculum for some time now. Murphy and Imrie (2003) looked at the implementation of computers in a reading classroom at KUIS. They stated that 'if a course is to reflect the 'real world', it should presumably include a certain degree of computer mediated reading.' They concluded that attempts to incorporate technology into the classroom need to be 'well-planned and methodical'. This study set out to explore the issue of whether the current environment at KUIS was effective for meeting the needs of teachers and students in terms of technology.

Methodology

An initial study of student use of software was undertaken to identify important factors which may determine whether the software was utilised outside of class requirements. The 52 participants in the study were 1st year students in the English department at KUIS. One of the most valuable aspects of incorporating technology into a curriculum is that it can encourage autonomy by providing students with a range of options from which to study. Technology which had a positive effect from a pedagogical standpoint would empower students to use it for

their own purposes and in their own time. The study sought to explore whether software which the teacher felt was valuable and which was demonstrated and explained in detail would be used by students beyond the initial introduction phase.

In the study, students were given instructions on how to use an item of vocabulary learning software, Smart FM. The lesson took place at the beginning of the semester. The instructions were given in English although participants were made aware of the option of switching to a Japanese language interface. A video explaining the pedagogical principles behind the software was available in both languages (<http://smart.fm/tour/video>). Class time was taken to demonstrate the software and participants were given the opportunity to practice using it.

After analysing the results of the initial study, a further study was then made of 6 students' individual interactions with technology over the period of a week. Instructions and training were given to the participants. Participants were then asked to keep a 'trial diary' for two days to determine if they were recording the correct information. The researcher and the participants then met and discussed any issues which arose from the diaries. During the following week, the participants recorded their interactions with technology in a diary on a daily basis (See Appendix A).

In the study, participants were told to record their interactions in either Japanese or English. The majority of data was recorded in English although some sections were translated from Japanese to English. Three of the students were in their

1st year and three were in their 2nd year at KUIS.

In order to gain a broader understanding of the use of technology across the four years that students spend at KUIS, surveys were also given to the researcher’s content based class entitled ‘Computers, English & You’. In this one semester course students attended 90 minute classes twice a week and the focus was on improving computer skills by using a variety of software with an English operating system (Microsoft Windows XP) and an English interface (i.e. Microsoft Office PowerPoint). The surveys were piloted; appropriate revisions were made and they were then given to four classes. Students in these classes were in their 3rd and 4th year at KUIS.

Results

In the first part of the research, participants were given a survey which sought to discover if they felt they would continue to use the software after the class (See Table 1). Participants were also asked if they planned to continue to use the program. 94% (n=49) responded positively while only 6% (n=3) said they would no longer use the program.

TABLE 1: Smart FM Usage: Prediction

	Class A	Class B
Yes, I would like to do this at home and at KUIS.	(n=7) 29%	(n=10) 36%
Yes, I would like to do this at home.	(n=10) 42%	(n=14) 50%
Yes, I would like to do this at KUIS.	(n=2) 8%	(n=2) 7%
I’m not sure.	(n=5) 21%	
No, I don’t think it was useful for me.		
No, I don’t think it was interesting.		
No, I didn’t try it at all.		(n=2) 7%

In a follow up survey at the end of the semester, participants were asked to what extent they had continued to make use of the software (See Table 2). 96% (n=50) responded that they did not use the software at all and 8% (n=2) said they didn't use the software much.

TABLE 2: Smart FM Usage: End of the semester

How often do you use Smart FM?	Class A	Class B
Every Day	0%	0%
Often	0%	0%
Sometimes	0%	0%
Not much	(n=2) 8%	0%
Never	(n=24) 92%	(n=26) 100%

The amount of data gathered in the second part of the research, when participants kept a diary over the course of a week, varied greatly between individual participants. The data gathered from two participants clearly illustrates this difference. For Student A, technology was an integral part of his life. He recorded extensive interactions on a variety of devices including his cell-phone, a computer at home, and a computer in the Self Access Learning Centre in KUIS (SALC). He reported using technology to do a wide range of tasks (See Table 3).

TABLE 3: Technology tasks completed by Student A

1. Listened to podcasts	9. Looked at bulletin board
2. Used Mixi	10. Used Skype
3. Played games	11. Researched topic for younger sister
4. Read news	12. Watched TV programs
5. Listened to music	13. Checked movie schedule
6. Checked email	14. Used Smart FM (only 2 times)

7. Downloaded MP3 for class activity	15. Checked restaurant opening times
8. Bought concert tickets	16. Read a blog

Student B only reported using a computer at home to listen to music, write an essay, send email, and watch a DVD. She made a number of negative comments toward technology such as “My computer is so slow” and “While I hear the class, I always play a game called “Hear”. It’s kind of card game because the class system is too slow”.

In the comments section of the journals, students recorded their feelings about their interactions. For Student A, a second year student, using technology was a very positive experience. He made such comments as “Using PC is needed to get up and turn on and wait few minutes. But, as it’s named, mobile phone, I don’t have to move my body, just using my hand. It’s very convenient when I’m sick and being in bed” and “Mobile phone is so convenient tool human beings invented.”

For Student B, a first year student, the case was much different. She was concerned about a variety of issues with technology including overuse (“I usually don’t use cellerphone at home and school because I don’t want to addict to using it.”) and advertising (“When I use computer, pop-up advertising and installation advertisement appeared. It usually interrupts me to use fluently. It's annoy.”).

For Student C, a second year student, the results were mixed. On the one hand she reported some negative effects of using the internet (“It’s still hard work for me to searching good website and writing essay for writing class. To find useful website,

I need so long time”) but on the other showed that with experience the result was different (“I searched Japan Times. I sometimes use that recently so it is not so difficult thing to do.”).

For Student D, a first year, a clear distinction was made between the use of Japanese and English on the internet. She stated that “Checking email use Japanese, so no problem” but on the other hand “Using English site is hard for me. Reading English sources takes much time” and “I couldn’t find the good resources in English. Japanese, easy to find.”

For Student E, a first year student, the main interaction was with a social networking service, Mixi. She made a number of comments about her interaction (“In my freetime, almost I use mixi.”, “Mixi is fun because there are somegames and so on.”, “It’s my habit to access the mixi every morning” and “Today I can’t look at mixi, so I looked many news or blogs.”).

The results of the survey given to four classes (n=84) over a two year period at KUIS in the researcher’s own course, (‘Computers, English & You’) also indicated a variety of student ability and attitude in terms of technology.

The first question in the survey was “how did you learn how to use a computer?” Responses ranged from studying from an early age (“I was belong to computer club in elementary school.”) to studying throughout different periods of education (“I learned at Junior high school and Kuis.”). Some students stated that their education began in high school (“When I was a high school student.”) while

others described a more autonomous approach (“I learned in elementary school, and I taught myself more (ex; about making website)”). For many students, their fathers were responsible for their introduction to technology (“My father taught me at first. Then I learned at junior and high school.”). One student initially responded “I have never learned any computer skills” but immediately qualified the comment by saying “actually I just forgot them. I learned at junior high school.”

The second part of the survey asked participants “how many hours a week do you use a computer at home?” Participant responses ranged from “1 or 2 hours a day”, “4 hours probably.”, “5 or 6 hours.”, “about 7-10 hours” through to “more than 10 hours a week” and in some cases “more than 20 hours”. This was evidence of a wide range of time spent interacting with technology for both educational and personal use between individual students.

The third question asked participants “what do you use a computer for at home?” Student responses ranged from using the Microsoft Office suite (“For using internet, word and excel”, “I use internet, word, itunes, powerpoint.”) through to conducting research for assignments (“research about lately news for class”). Some students reported using a computer for more functional purposes (“Reservation and study for a driving school.”) while others reported a variety of uses (“Internet, Word, Excel, Paint, Skype,”). For many students, the use of a computer at home was for a wide range of activities (“for doing assignments, searching job about employment, watching movies on the youtube” or “Do homework, search for report, make report, watch YOUTUBE.”)

The fourth question was “how many hours a week do you use a computer at KUIS?” Participant responses ranged from the bare minimum “just in this class” to a slightly higher rate of “less than 1 hour”. Participants reported a range of use of computers at the university from “2 hours per week. I like use it at my home than at KUIS” to “about 5 hours”, “about 6 or 8 hours a week”, through to “about 10 hours”.

The fifth question was “what do you use a computer for at KUIS?”. Participants responded with a wide variety of uses from searching for “something for homework, to watch YouTube etc...” through to “printing some papers, news...etc”, “Usually for my homeworks.”, “I check my grace mail, and write report”, “for doing assignments, watching movies” and the succinct “For study.”

A final question asked students if they felt “technology should be used more in KUIS classrooms”. They were also asked to explain their response. The responses ranged from very positive comments such as “Computer skill is very important these days” and “Yes, because I want to have a chance to touch new technology.” Other participants reported that they “would like to get more high skills about information technology” and that they wanted to “register my class by using internet. it annoys me to go to school during holiday to do that.”

However, not all students responded as positively. One participant said “not in classrooms, but outside of class, for example at yellow sofa or cafeteria, WiFi should be available so that students can use either their computers or iphone”. Other participants were more direct and stated “I do not. The technologies which are been

using at Kuis are enough. We do not need more” or “I don’t think so because we can use it by ourselves outside classrooms and we have to learn language in KUIS so we shouldn’t face computer so much”. Some participants felt strongly enough about this to state categorically that they did not feel technology had an important role at KUIS i.e. “I dont think its necessary for student if they are not interested in technology” and “no, becuse i don’t like to use them.”

A number of participants had mixed feelings about the issue and responded by saying “using computers and other hardwares can be very useful to learn something. However I don’t think they must be used. It according to the situation.”

A study by Mackenzie et. al. conducted at KUIS in 2009 aimed to investigate patterns of Blended Learning Space (BLS) by teachers in the English Language Institute (ELI) at the university. When the study was conducted, the ELI consisted of 51 full-time teachers and 8 full-time learning advisors. As part of the research, a survey of teachers was made which was ‘designed to get a broad snapshot of BLS use across the ELI’ (Mackenzie et.al., 2009).

The results of this survey indicated that in 2009, over half (55.3%) of the teachers who responded (n=38) had never studied CALL. Having completed an MA in TESOL in 2005 at Victoria University in Wellington, New Zealand, the author can attest to the absence of any requirement for CALL to be integrated as a

compulsory element of postgraduate study in applied linguistics.

The study also asked if teachers had used CALL prior to employment at KUIS. Once again over half (52.6%) answered in the negative. A remarkable 68.4% of teachers stated that they had never used CALL as language learners themselves.

Conclusion

One conclusion that can be drawn from this research is that within both the student and teacher population at KUIS there is a wide range of both technological ability and the amount which technology is used both within and outside the classroom.

Despite the best intentions of teachers who are attempting to introduce some form of new technology into the curriculum, students may not feel that it has a place in their studies. Conversely, for some students, technology may provide motivation to use their target language in new and innovative ways. For these students, teachers who have never used CALL to study language may not be able to advise and assist them in accordance with the student's particular needs and requirements.

In their introduction to 'Teacher Education in CALL', Hubbard & Levy (2006) note that as well as the critical role of the teacher in CALL education, the learner and the learning environment are 'crucial considerations for the competent practitioner, researcher, developer and trainer'. It is only when the teacher, the learner and the learning environment are clear about their roles, convinced of the value of technology in education, and mutually supportive that technology will

have a positive impact on language learning.

In order to achieve this, it will be necessary to ‘constantly monitor the language-learning environment, and to evaluate whether the objectives are being met’ (Levy & Stockwell, 2006). The results of this research suggest that while there is evidence of objectives being met for some learners, other learners do not feel that their progress towards their goals is being enhanced through the use of technology. Many teachers have not had training in CALL nor have they had personal experience in using it to study a language. They too may feel that CALL does not provide anything which could not be done with traditional classroom methods.

It is also important to keep in mind that student’s language proficiency does not necessarily parallel their familiarity or proficiency with technology (Kelly et. al, 2009). However, technology is integrated in today’s working, communal and personal spaces. If technology can also become integrated in learning environments, learning experiences will be more authentic and there will be a higher rate of skills transfer experienced by students.

The quality of language learning opportunities which arise due to the application of technology in education will continue to fluctuate while the abilities and requirements of teachers and learners are not mutually supportive. Warschauer (2006) notes that despite suggestions on the part of educational reformers that ‘the advent of new technologies will radically transform what people learn, how they learn and where they learn’, studies of a range of learners’ use of new media ‘cast

doubt on the speed and extent of change'. Time must be given for training, practice and acceptance of new technology and great care must be taken to ensure that the technology offers something which cannot be achieved in an equally efficient or effective way with current practices.

References

- Anderson, J., & van Weert, T. (Eds.). (2002). *Information and Communication Technology in Education: A Curriculum for Schools and Programme of Teacher Development*. UNESCO, Paris.
- Bax, S. (2003). CALL—past, present and future. *System*, Volume 31, Issue 1 (pp. 13-28).
- Dreyfus, H. (2001). *On the Internet (Thinking in Action)*. London: Routledge.
- English Language Institute. (2009). *The ELI handbook 2009-2010*. Chiba: Kanda University of International Studies.
- Hubbard, P., & Levy, M. (Eds.). (2006). *Teacher Education in CALL*. Amsterdam: John Benjamins.
- Kelly, M., Kennell, T., McBride, R., & Sturm, M. (2009). The pedagogical implications of web 2.0. In M. Thomas (Ed.), *Handbook of research on Web 2.0 and second language learning* (pp.337 – 338). Hershey, PA. IGI Global.
- Levy, M. & Stockwell, G. (2006). *CALL Dimensions: Options and Issues in Computer Assisted Language Learning*. Mahwah, NJ: Lawrence Erlbaum Associates.
- MacKenzie, D., Promnitz-Hayashi, L., Jenks, D., Geluso, J., Delgado, R., & Castellano, J. (2010). Blended learning spaces: Patterns of use. In A. M. Stoke (Ed.), *JALT 2009 Conference Proceedings*. Tokyo: JALT.
- Murphy, P., & Imrie, A., (2003). *Implementing computers in a reading classroom*. Kanda University of International Studies Research Institute of Language

Studies and Language Education, 14, 123-166

Oliver, M. Trigwell, K. (2005). Can 'Blended Learning' be redeemed?, *E-Learning and Digital Media*, 2(1), 17-26.

Salaberry, M. (2001). The use of technology for second language learning and teaching: A retrospective. *The Modern Language Journal*, 85(1), 41-56.

Swain, M., & Lapkin, S. (1998). Interaction and second language learning: Two adolescent French immersion students working together. *The Modern Language Journal*, 83(3), 320-337.

Szendeffy, J. de (2005), *A Practical Guide to Using Computers in Language Teaching*, Ann Arbor, University of Michigan Press.

Warschauer, M. (2006). *Laptops and literacy: Learning in the wireless classroom*. New York: Teachers College Press.

Wang, C.Y.J. (2001). Handshakes in cyberspace: Bridging the cultural differences through effective intercultural communication and collaboration. *In Annual proceedings of Selected Research and Development Papers Presented at the National Convention of the Association for Educational Communications and Technology*. Atlanta, GA, November 8-12, 2001.

Appendix A. Example page for technology interaction diary.

When?	Where?	O/S?	What for?	Reaction?日本語 OK
Date - 01/12 Time - 16.00 – 16.40	MEC	Eng./ 日本語/ 携帯	Writing Introduction for essay in XXXXXXXX class. Doing research for presentation in XXXXXXXX class. Checking email.	Writing was OK. I know how to use Microsoft Word well. Doing research was frustrating. I couldn't find anything useful on the internet. The internet was slow when I checked my email.
Date - 01/12 Time - 18.00 – 19.00	Home	日本語	Look at music websites.	I use these websites a lot so it is easy for me to find information.
Date - 02/12 Time - 10.00 – 10.50	BLS	Eng.	Writing Class. Writing conclusions for essay.	We spent a lot of time talking and not much time using the computer. I think it would be better to use the computer outside of class. My friend showed me how to change font size.