Trainee teachers' reflections on experiencing technology in the classroom in an overseas setting, Australia.

Anthony Robins

The advantages of opportunities for second language learners to spend time abroad, whether for a shorter or longer period, have been widely researched and described (e.g. Amuzie and Winke (2009), Bodycott and Crew (2000), Llanes and Munoz (2009), and Robins (2011)). This paper, however, intends to consider a more specific area of exposure, the opportunity to experience the use of technology in teaching and learning in another environment, in this case, Australia. This was facilitated by a short (two to three weeks) program, which is now in its fourth year and whose development, aims and results have been previously described in Robins 2014a, 2014b. Before looking at students' reflections on this topic through a questionnaire carried out after the end of the fourth year of the program and considering the issues these reflections raise, it is useful to look at technological developments in education, including language teaching in particular, and the perceived benefits and drawbacks they bring.

The use of technology in teaching and learning can be seen as having a long history, if what constitutes 'technology' is defined widely enough. However, the postwar (2nd World War) period has seen an ever-increasing momentum, with developments such as the language laboratory and champions such as Skinner with his teaching machine, which he described in 1958. Almost 25 years ago, in relation to technology, Apple (1992:105) was describing how, "We are in the midst of one of those

many educational bandwagons that governments, industry and others so like to ride."

Among the benefits pointed to for learners are, firstly the related outcomes of personalization, individualization of learning, and greater learner autonomy. The latter is seen by Lewis (2010:87) as meaning that, "Students will have an array of tools at their disposal which will allow them to be masters of their own learning process." Personalisation was the focus of a 2007 article (Futurelab) with the caveat however, that, "they (learners) need to truly understand their own needs, interests and aptitudes – otherwise their learning will have to be 'personalised' for them."

Secondly, access to wider sources of information is seen as gained, as by Selwyn (2010:15-16), referring to Farer. Thirdly, technology's motivating effects are pointed to, as by Sharma and Barrett (2007:10) through offering more immediate feedback, being more engaging and interactive and facilitating the understanding of complex subjects, with the latter two benefits hailed by Goto Butler et al. (2014:266) who refer to Garris et al., as to how the use of computer games can be beneficial in language learning, albeit in a similar way to traditional games.

Finally, writers point to the need to acknowledge the world that learners now live in. Selwyn (2010:30) quotes Prensky who stated that, "Our students have changed radically. Today's students are no longer the people our educational system was designed to teach." On similar lines, Lewis (2010:12) indicates that, "Today's students are always connected and this needs to be acknowledged in education."

While the previous benefits relate to learners, perceived advantages for teachers should not be ignored. Sharma and Barrett (2007:11) believe that technology such as electronic whiteboards can be timesaving, which Selwyn (2010:17-18) also sees as beneficial, in addition to technology providing support for reducing teachers' workloads through being able to

monitor learner progress and more easily manage learning materials, a benefit also indicated by responses to the questionnaire which I describe later. However, despite the range of benefits which have been referred to, more skeptical writers highlight drawbacks. These drawbacks include logistical issues such as a lack of computer access (often known as the 'digital divide') and possibilities for malfunctions. In addition, from past to present there has been a 'top-down' mentality in introducing technology, described by Wedell and Malderez (2013:120) as, "Our experience…. is that policy makers and institutional leaders are 'better at' buying the hardware, than at helping its expected users to understand its possibilities for language learning and teaching." Other writers, such as Apple (1992:112) see technology in learning as epitomizing utilitarian, future job-focused approaches to education. Even more than twenty years ago, in 1992, he wrote that, "Vast areas of school life are now seen to be within the legitimate purview of technological restructuring." (106) Finally, the mismatch between current learners and the educational system, referred to above, is also seen as a drawback in the sense of making it difficult for technology to be successfully used in current schools, with Selwyn (2010:22) indicating that, "growing numbers of academic commentators and educational technologists are now beginning to view schools as a distinct impediment to realising the educational potential of digital technology."

Before moving on to the questionnaires answered by program participants, it is useful to briefly look at examples of policy and attitudes towards technology in schools in various countries, not only Australia and Japan. Scandinavian countries appear to particularly embrace such technology. Writing recently, Allen (2015:251) sees Norway as, "a leader" where digital literacy is "on a par with" traditional literacy and arithmetic, while, "many Swedish municipalities have embraced so-called 'one-to-one initiatives' for the provision of laptop computers to individual

pupils." An experience at an individual location in Turkey, described by Timucin (2006:263), initially aimed to counter dull classes and excessive focus on coursebooks but faced opposition. However, it was ultimately successful and the lessons learned will be returned to later in this paper.

Turning to Australia and Japan themselves, the low budget and relatively low use of technology in Japanese school education has been pointed out. Murai (2015) refers to MEXT (Education Ministry) figures which indicate that the number of students per computer in Japan was 6.5 in 2014, whereas the goal is 3.6 for the 2017 financial year. The former figure was greater than either South Korea, Singapore or the United States, even before 2014. In addition, in 2014, only 37.4% of Japan's public schools were using digital materials in the classroom, just 4.9% more than the previous year. With the costs involved in introducing technology, it would seem likely that this limited provision is related to overall education spending. Otake (2015) refers to statistics which indicate that Japan spent least as a percentage of GNP among OECD countries which were surveyed. At 3.5%, the same as Slovakia, it was 1.2% lower than the average and 3% lower than Norway, which spent the most. 2012 was also the sixth consecutive year for Japan to be the lowest spender. The responses to the questionnaire later in this paper indicate the perception that use is much more widespread in Australia, and figures from the 2012 Programme for International Student Assessment (PISA), quoted by Picardo (2015:30), bear this out, indicating that it showed a mere 0.9 students per computer, the lowest of nine locations (the eight others being Finland, Germany, Shanghai, Singapore, South Korea, Sweden, the United Kingdom, and the United States). This may be the result of Australian measures such as its 'Digital Education Revolution' strategy, launched in 2008 and referred to by Selwyn. (2010:23)

The benefits and drawbacks of technology in education are among

topics covered by the questionnaire given to students on the 2015 Australian Teaching Practice Program. The questionnaire (see Appendix 1) was e-mailed to all 21 students who took part in the program. 20 students responded, meaning a response rate of 95.2%. As can be seen, it consists of both quantitative and qualitative questions, with the former asking participants to both consider their experiences during the program and to look back on their own experiences at school in Japan. As can be seen, the total responses to the qualitative questions typically do not reach a total of 19 (the number of participants' questionnaires minus one, which was not used because of possible misinterpretation of questions).

The first three questions covered the amount of use by three groups during participants' stays in Australia: the teachers at the schools where the students spent two or three weeks, the use by the students themselves, and the amount of use by the students studying at the schools. The results from the responses are given respectively in Tables 1 to 3. As in Tables 4 and 5, 'never' (implicitly) means that the student gave none of the choices, while 'never' (explicitly) means that the student added a clear additional indication that there was no use.

Table 1: Replies to the question: At the school(s) where you were, did you see teachers using these in classes?

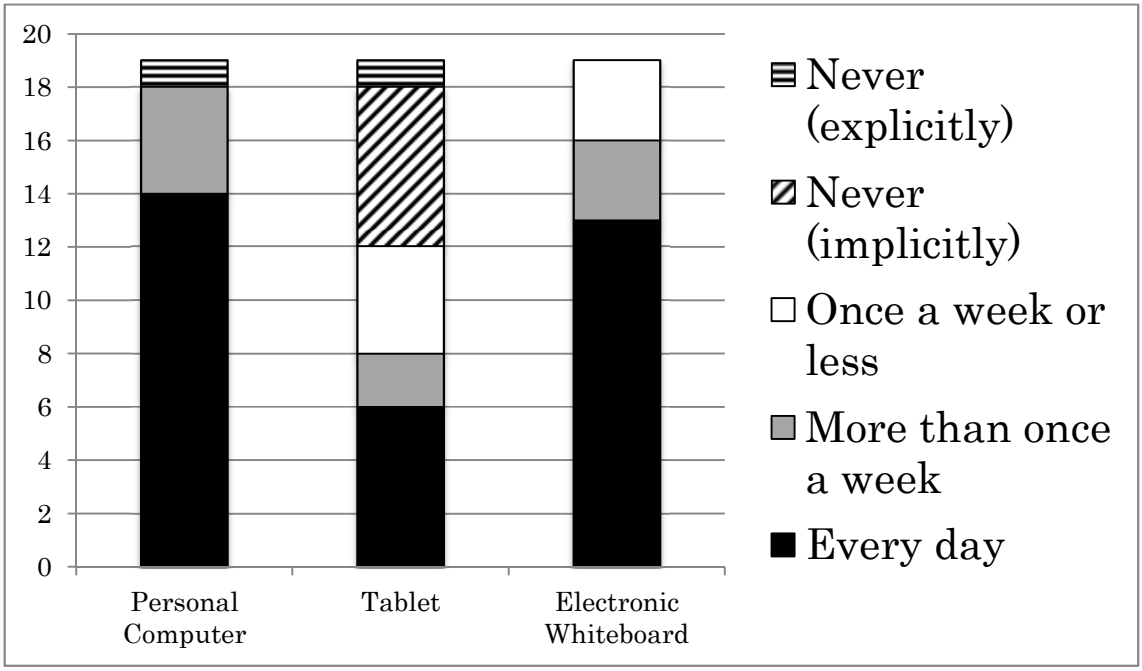


Table 2: Replies to the question: At the schools where you were, did you use these in classes?

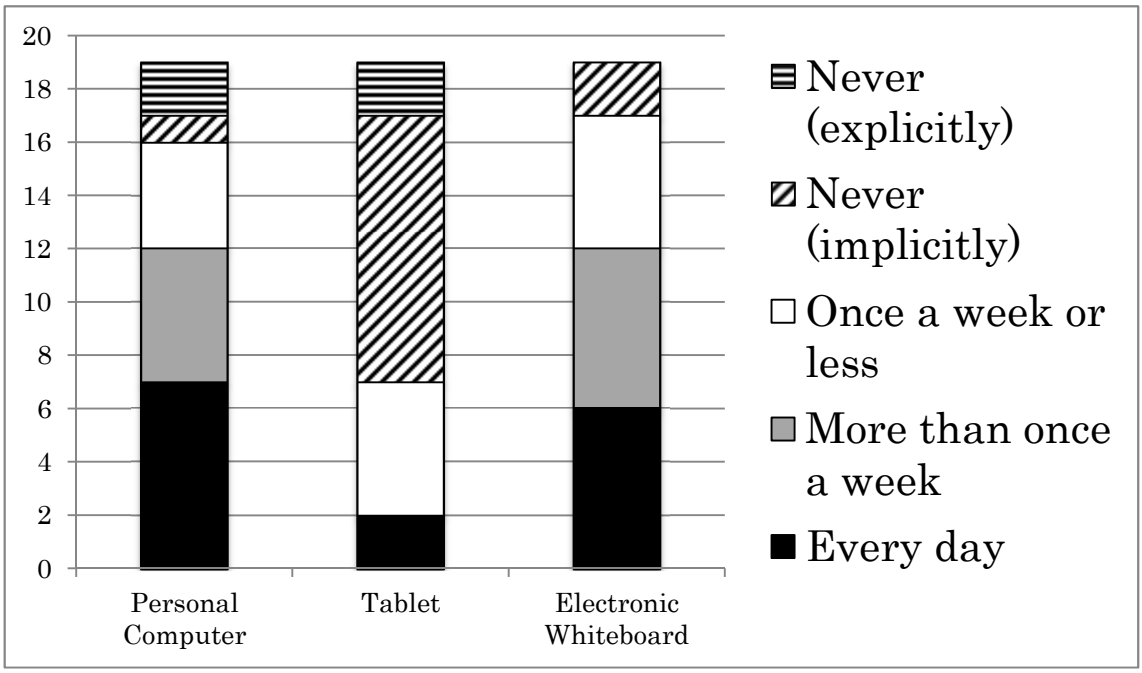
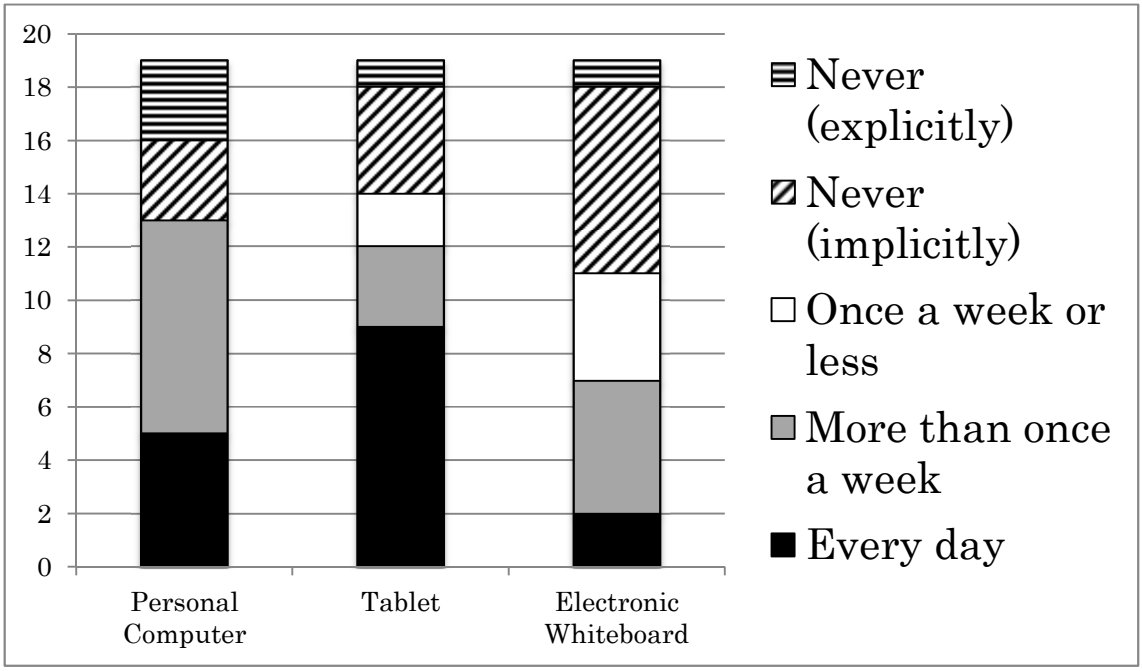


Table 3: Replies to the question: At the school(s) where you were, did you see students using these in classes?



As can be seen, use by teachers is most prominent, especially concerning frequency, with program participants reporting observing particularly high use (every day) of personal computers and electronic whiteboards. Although not as high in frequency, use by both the university students doing teaching practice and the school students is relatively high in the sense of those using at least one of the types more than once a week. Contrasts can also be seen in use, with tablets being most frequently used by school students.

The responses to the next two questions covering the university students' own experiences while at school are given in Tables 4 to 5. One participant did not give responses to these two questions, as she had been educated outside Japan. These responses are in marked contrast to those shown in the previous tables. Frequency is much lower, both for teacher and student use, with no examples of use being more than once a week or daily. Of course, the school experiences of the university students were in the past, which is an important factor, given the pace of technological development. However, their high school experience was in the range of

just two to eight years before, considering their starting and finishing dates at high school, with all the listed technologies available for part or all of that time.

Table 4: Replies to the question: At the last school in Japan where you were a student (senior high school), did your English teacher use these in classes?

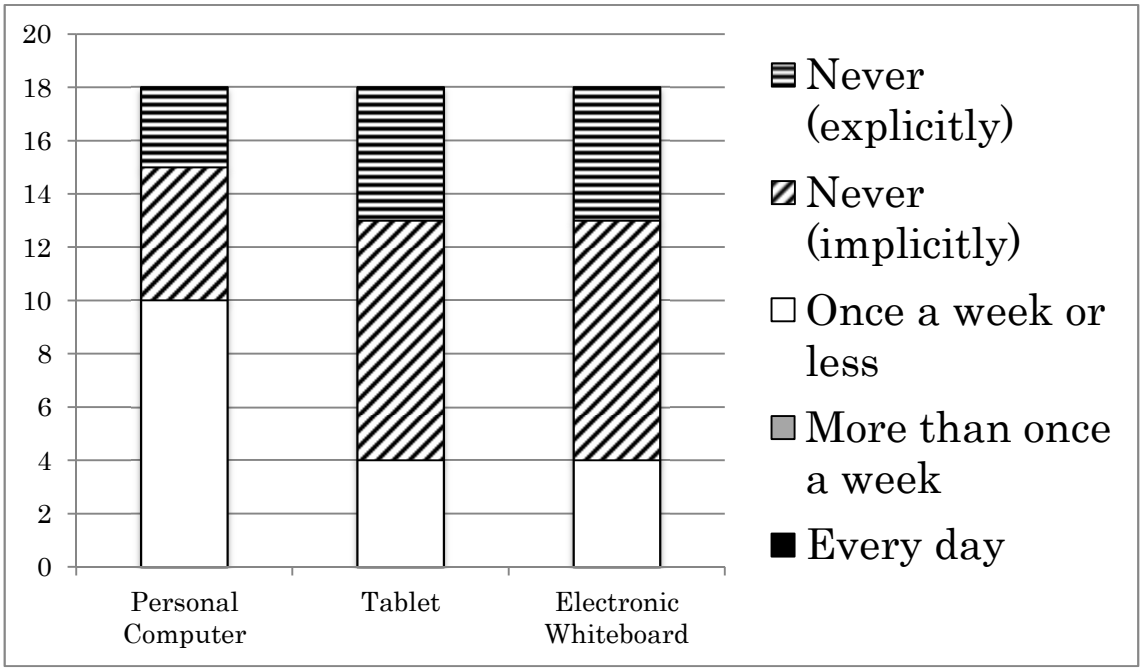
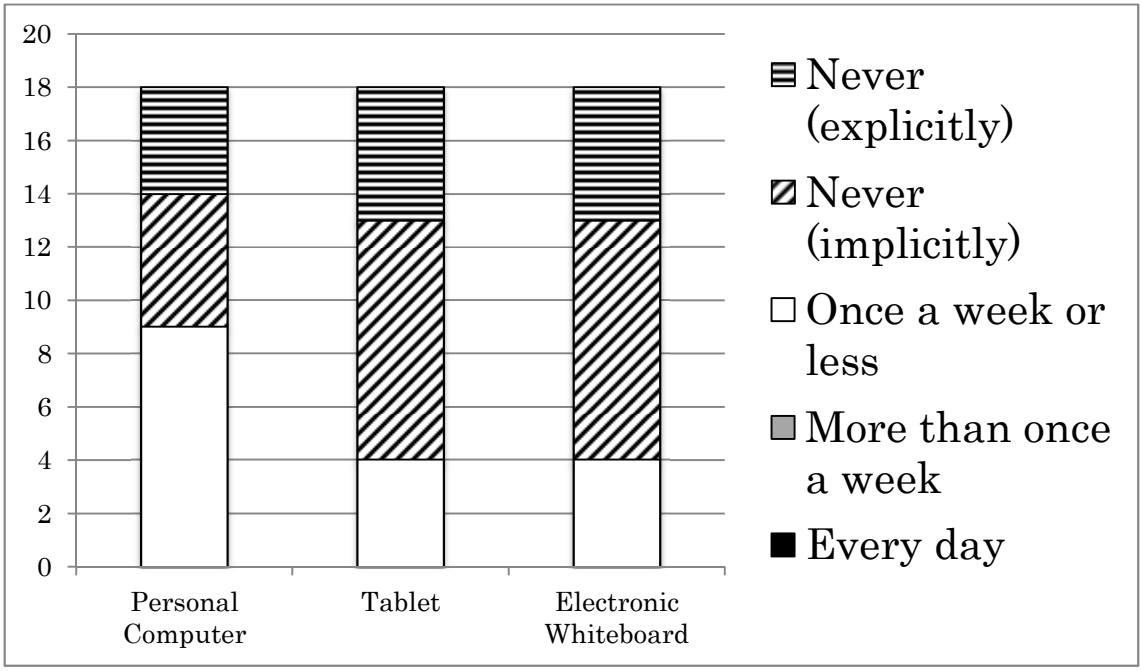
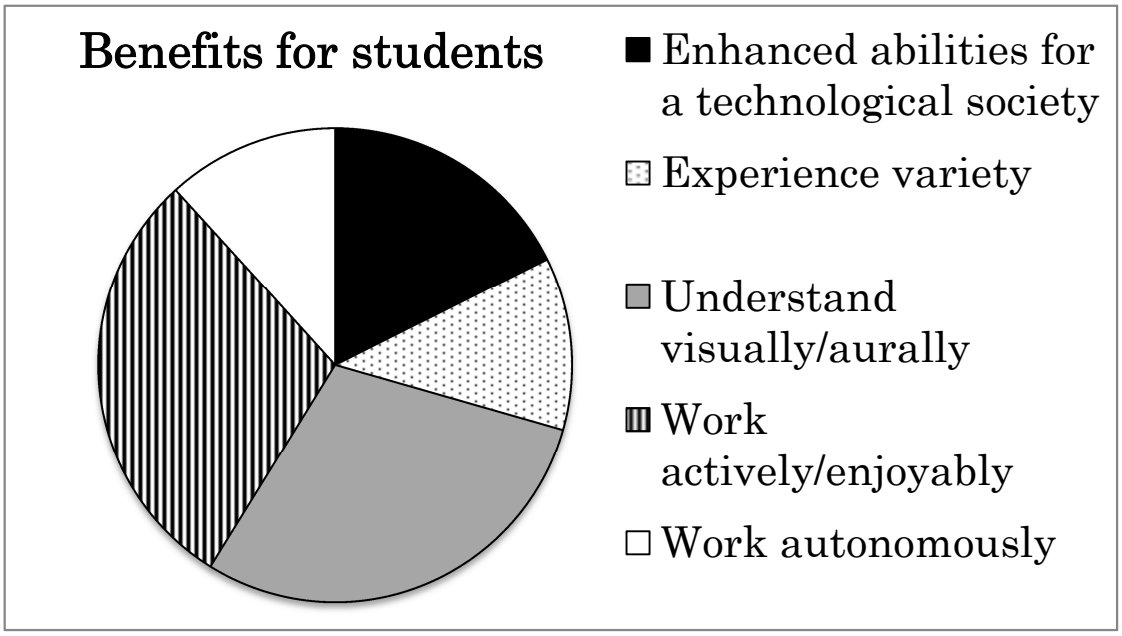


Table 5: Replies to the question: At the last school in Japan where you were a student (senior high school), did you (as a student) use these?



Moving to the more qualitative section of the questionnaire where students were given the opportunity, as shown in Appendix 1, to put together their overall answer in approximately 100 words, the questionnaire subjects answered in somewhat contrasting ways, with ten answering the individual questions separately and nine answering in a more holistic way. The final average of response length was actually 141.5 words, ranging from a minimum of 83 to a maximum of no less than 531. As in looking at the literature on the benefits and drawbacks above, it is useful to separate the benefits for students and teachers, although they are not totally mutually exclusive. There were a total of seventeen references to perceived benefits for students, as shown in Table 6.

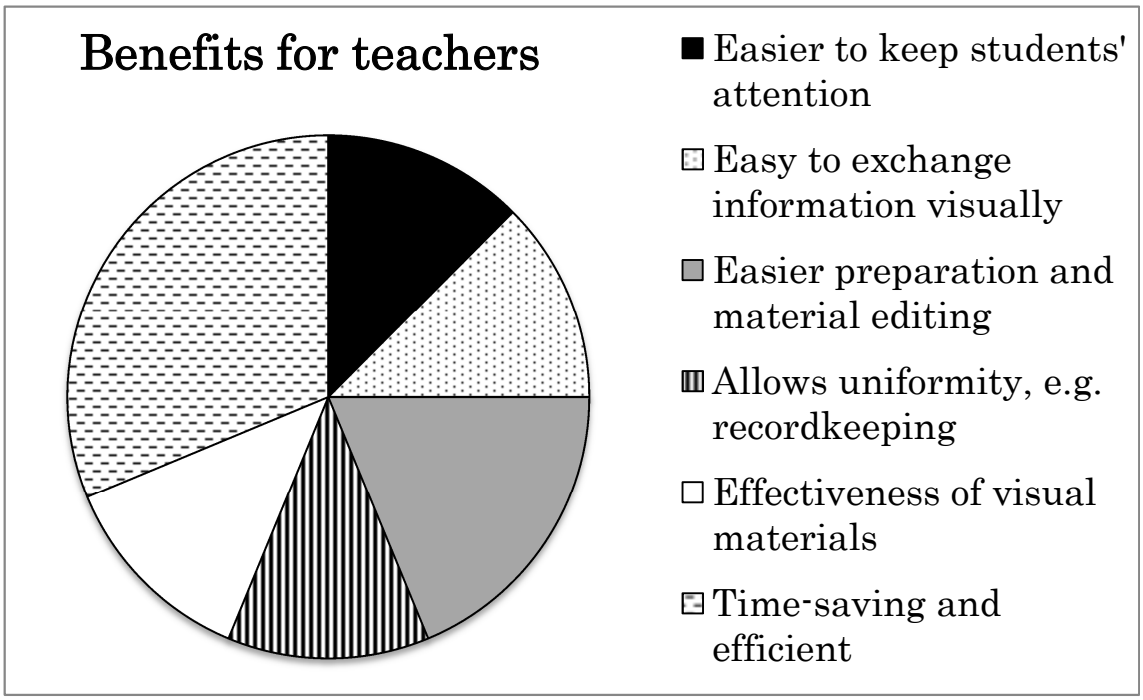
Table 6: Benefits for students



As can be seen, most stressed by frequency is the chance for enjoyment and active learning and being able to understand aurally and visually, which is particularly important for language learning. The next greatest number of respondents focused on the match to a technological society, with one writing, "I think that it is good for children to be able to use such technologies because we are in technology (a technological) society." This could be seen to connect both with more utilitarian motives of education using technology and the need to connect education to young people's technology-based lives, both referred to earlier. Also referred to earlier and appearing in responses in this table are the benefits of allowing autonomy in learning and individualization. Finally, variety is available to both students and teachers.

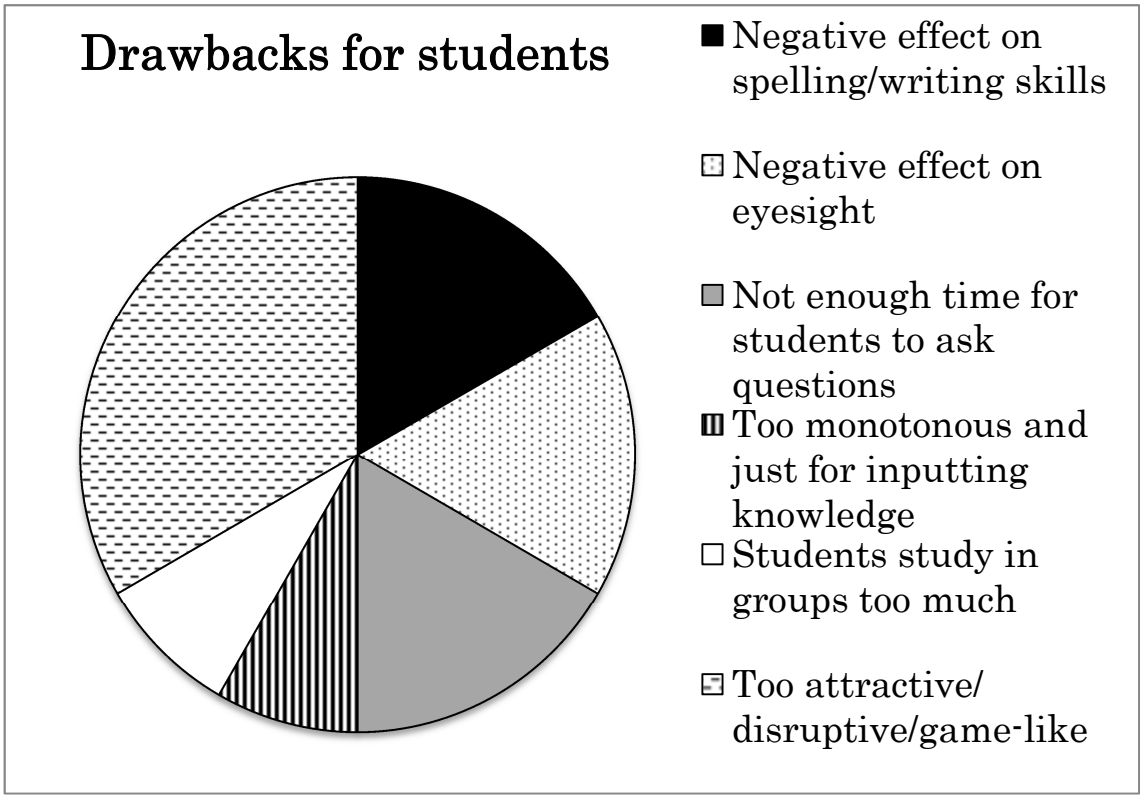
This brings us to the benefits which can be seen as more purely for teachers. The sixteen responses are shown in Table 7.

Table 7: Benefits for teachers



The benefits given by the most respondents were that teachers can save time, including allowing them time to do other work while students are engaged with the technology. As can be seen, the various other responses, which were each given by two students, encompass various aspects of a teacher's role and life. In fact, the various benefits while mainly involving interaction with students, also include exchanging information with colleagues, as well.

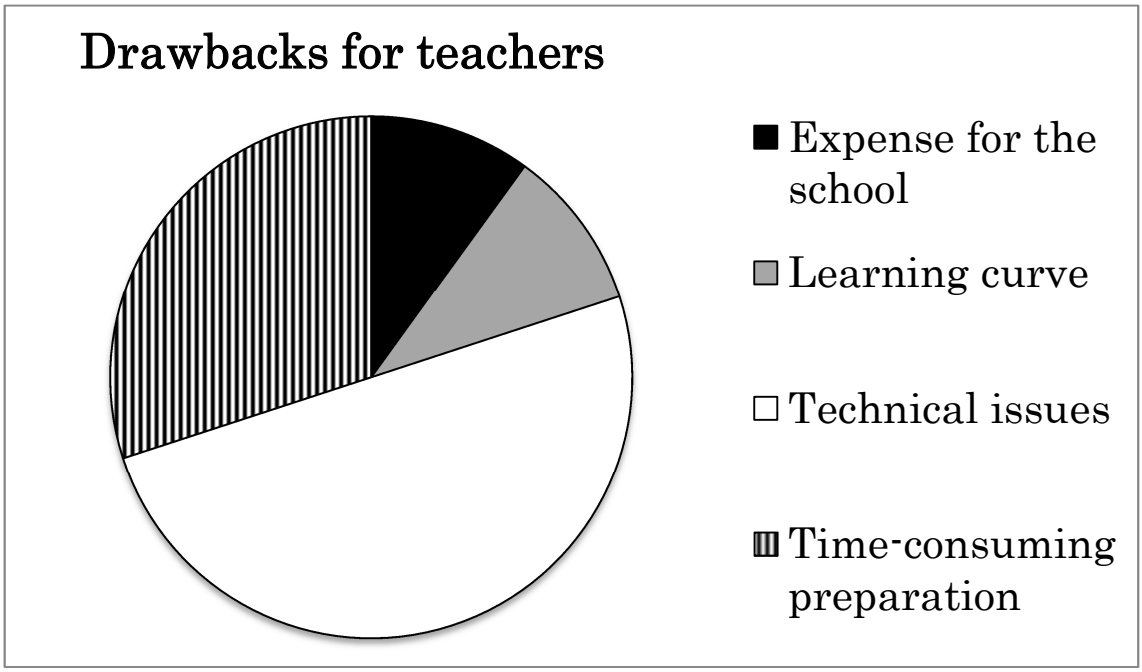
Table 8: Drawbacks for students



Twelve responses concerning drawbacks pointed to for school students can be seen in Table 8. Some go directly against the kinds of benefits to students detailed in the literature at the beginning of this paper, as well as the responses of participants which were just referred to. Rather than being seen as positively 'engaging', respondents variously saw them as, "too attractive", "game-like", or "too disruptive", leading to loss of concentration, as well as being too passive and input-oriented. One participant went as far as to say that, "Playing games and studying should be separated." Table 8 also shows that participants were concerned with both physiological effects and possible interference with skill development. Perhaps particularly reflecting the group or class oriented experience of education in Japan, one participant wrote that, with the use of various technology, "some children are studying by PC, some are studying by using electronic whiteboard, and some are writing on pieces of papers, some are reading books…..I think that children

should study together and should be influenced by other children." She thus challenges the idea that the individualization facilitated by technology is beneficial.

Table 9: Drawbacks for teachers



Drawbacks indicated by the respondents for teachers which numbered ten, as shown in Table 9, although not large in number, are dominated by technical issues. These appear to have been influenced by their experience during the program, with exposure to such issues as wi-fi capacity, equipment not working and compatibility issues. The need for 'a learning curve' with technology is also illustrated with one participant indicating that, an "interactive board needs to be learned and is then difficult to use smoothly." Finally, while technology has an image of being time and labour saving, three students indicated that the preparation involved was large in volume and time-consuming.

Finally, there is a perception of high cost. It is included in the table, although it is actually likely to be more of an issue for a school in general

than individual teachers and might impact more on parents rather than school students themselves. Cost is also closely related to funding sources and policies in various countries, which were covered earlier in this paper. Table 10 shows the clearest cut responses to any of the questions, with 81.6% of responses from 19 participants, indicating that the use of technology in schools in Japan is too limited. While again there is the issue of whether these participants as university students are basing their views on their schooldays in the past, many had also had more recent experience of the situation in schools through doing teaching practice in Japan.

Table 10. Current situation in Japan

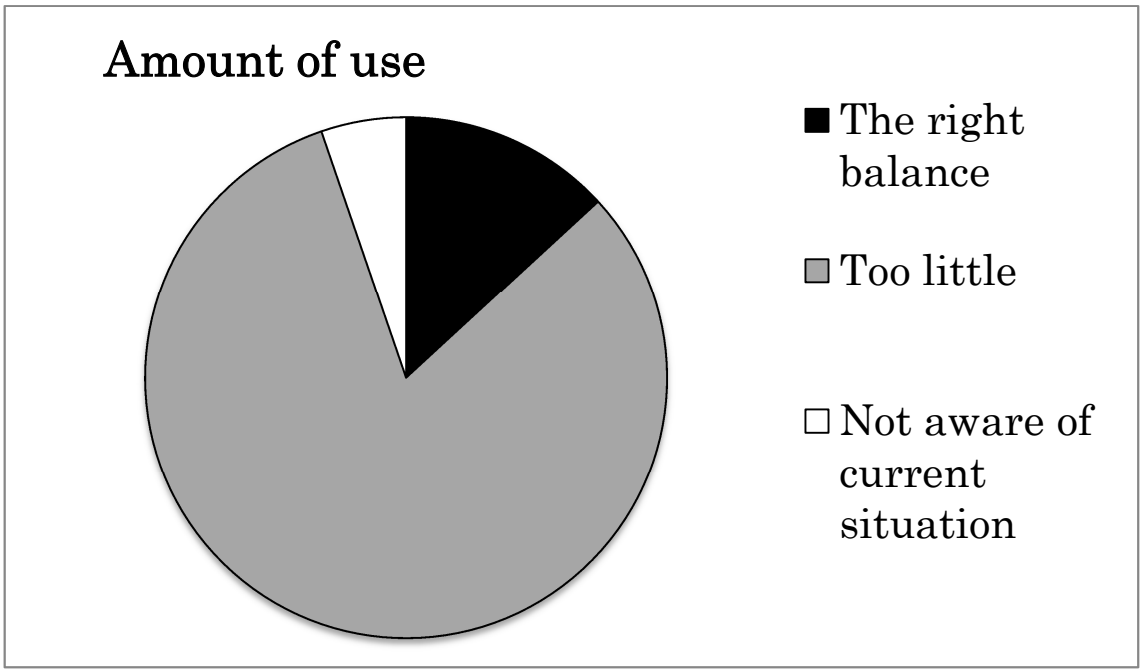
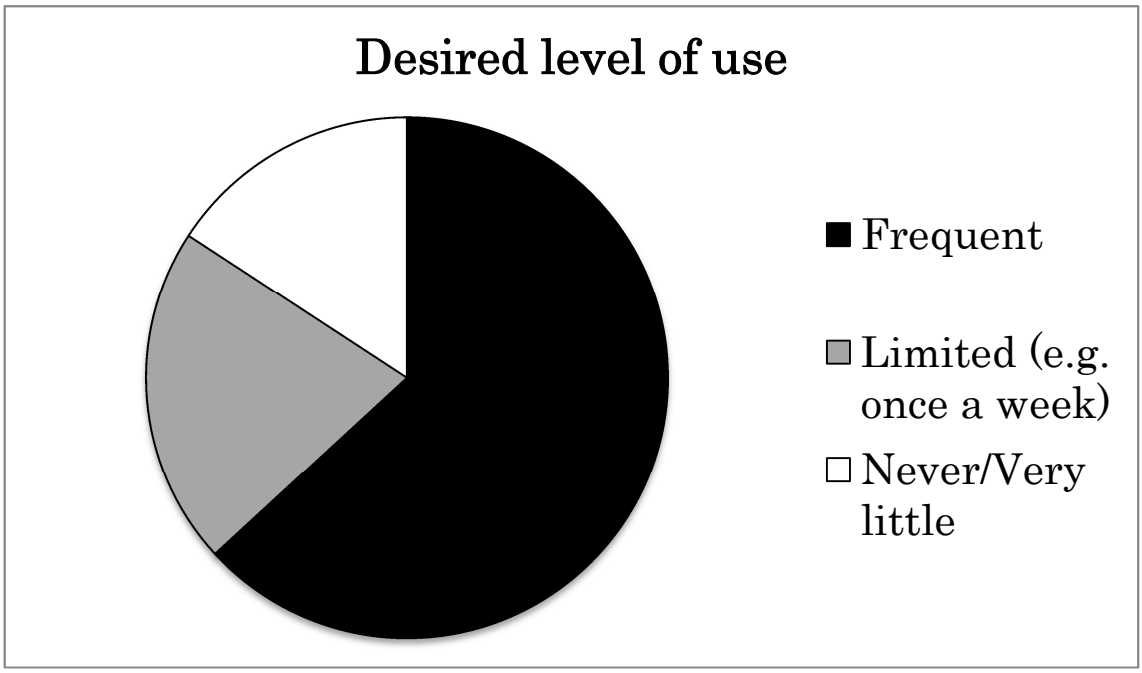


Table 11. Participants' desire to use technology in the future as a teacher in

Japan.



The final table, Table 11, provides an overall summary, but actually the responses from the nineteen participants are more varied. There are negative views, some of which reflect points which have been covered. For example, connecting with the previous table, one participant would like to use technology, but feels that there are few chances in Japan, while another has been discouraged by disadvantages seen while in Australia. Others would limit its use, whether to parts of a class, writing, "for introduction, review, and so on, but not for (the) whole class.", or by frequency, with the view that, "I would not like to use technology so much. To use technology is important and useful, but to write something on papers is more important." Apart from rejecting use of technology because of drawbacks experienced, other reasons for avoiding its use are overload, with one participant writing that, "I don't think I can manage both computer and students at the same time." Another participant bluntly stated that, "I hate technology." This may seem surprising, with young participants who have grown up in an environment where technology is

all-pervasive, but somewhat parallels what Allen found (2015:259) in Sweden, where young trainees, "exhibited a more positive attitude to the traditional coursebook in the classroom compared to their more traditional in-service colleagues."

As has been shown, we can see a range of views by the participants. How can we reach 'a happy medium', where technology can be used effectively in learning and teaching? Perhaps it is useful to even go back to 1992 again, where Apple (1992:264,266) raised certain questions, perhaps timeless questions, which should be asked as criteria in using technology:

A: Does the computer (now encompassing offshoots such as tablets) enhance anyone's life?
B: Does it hurt anyone's life? Whose?
C: Who decides when and where computers will be used?

Timucin (2006) has been referred to earlier. Writing about convincing skeptical teachers, he indicates that from his experience, it was necessary to avoid 'top-down' implementation and build a teacher community to discuss issues with implementing technology. As he writes (269), "An innovation can only flourish if the teachers become vigorous, engaged participants, and if the teachers realize that there will be continuous attempts to make them integral parts of the 'novel' system." His advice may be particularly valuable for those, such as some of the participants, for whom the use of technology was very novel, or who were skeptical and saw mainly drawbacks.

Without doubt, those participants have at least benefited from exposure to the use of educational technology in a different environment. Finally, perhaps they should just keep in mind a maxim from Sharma and Barrett (2007:132) that, "The future will be exciting if the new

technologies lead to better learning outcomes, then that is a good thing for teachers and learners."

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Appendix 1: Australian Teaching Practice: Teaching and Technology Questionnaire

I would like you to focus on your experience of seeing and using technology in Australian classrooms by answering these questions:

1: At the school(s) where you were, did you see teachers using these in classes (use O for your choice):

Every day　More than once a week　Once a week or less

PC (Personal Computer)

Tablet (e.g. I-Pad)

Electronic whiteboard

Other (Please indicate_____)

2: At the school(s) where you were, did you use these in classes (use O for your choice):

Every day　More than once a week　Once a week or less

PC (Personal Computer)

Tablet (e.g. I-Pad)

Electronic whiteboard

Other (Please indicate_____)

3: At the school(s) where you were, did you see students using these in classes (use O for your choice):

Every day　More than once a week　Once a week or less

PC (Personal Computer)

Tablet (e.g. I-Pad)

Electronic whiteboard

Other (Please indicate_____)

4: At the last school in Japan where you were a student (senior high school), did your English teacher use these in classes (use O for your choice):

Every day　More than once a week　Once a week or less

PC (Personal Computer)

Tablet (e.g. I-Pad)

Electronic whiteboard

Other (Please indicate_____)

5: At the last school in Japan where you were a student (senior high school), did you (as a student) use these (use O for your choice):

Every day More than once a week Once a week or less

PC (Personal Computer)

Tablet (e.g. I-Pad)

Electronic whiteboard

Other (Please indicate_____)

6: I would like you to reflect on your views of technology use in classrooms by writing about 100 words, including your opinions on these questions:

A: What were the positive points of using such technology in the classrooms in Australia?

B: What were the negative points of using such technology in the classrooms in Australia?

C: Do you think that the use of technology in schools in Japan is:

Too much? The right balance? Too little?

D: Would you like to use technology in the future as a teacher in Japan?

Why? Why not?

Please write on the next page. Your answers are purely for research and will be used in a future article. By answering these questions, you agree to allow them to be used for research. Thank you for your help.

Anthony Robins Deadline: 7th October 2015

Please write your answer (about 100 words) for Question 6 here: