Promoting Autonomy in a Technology Teacher Training Course

Nick Yates
Zayed University, Abu Dhabi

Abstract

There are many ways professional development (PD) for educators could be designed including one-to-one coaching, online support, workshops, discussions, or lectures. In a Japanese university, a technology training course for teachers was developed that included collaboration, supportive dialogue, and reflection. This paper will explore this course in technology training for educational purposes, which was designed to meet the needs of teachers who wanted to learn more about the connection between language learning and technology. The course aimed to develop teachers into autonomous practitioners who have the tools and ideas to be able to harness educational technology benefiting their own lessons. The rationale for the workshops and discussions will be outlined as well as the link between theory and pedagogy that was used as a foundation. Results indicate participating teachers found the training empowering, informative and useful and throughout the year, results showed that the training provided teachers more autonomy in their teaching.

Introduction

It is well past the millennium now and Technology Mediated Learning[1] (TML) is continuing to expand in many realms such as hardware, software, methodology, modes, and integration to name just a few. This expansion has been felt at a private foreign language university in Japan, where the use of different technology both in and out of the classroom is becoming more prevalent. However, to what extent will teachers and students welcome this expansion and to what extent can technology be successfully integrated? Bax (as quoted in Ioannou-Georgiou, 2006, p. 382) is extremely optimistic stating that computers would be 'an integral part of every lesson' and 'will not be the centre of any lesson but they will play a part in almost all'. Bax continues to say that 'teachers and students will use them without fear or inhibition' (ibid.). Whilst this context would be ideal for most administrators or competent TML teachers, it may also present challenges for teachers. The current study's context is one with ample access to technology, ready to be used in and outside of classrooms. However, within the freshman course, a need for teacher training to increase knowledge of technology and how to use technology to mediate language learning was evident as teachers lacked knowledge and needed support to overcome the challenges.

This paper will outline the creation and development of a teacher training course to meet the needs of the teacher participants. The research aims of the training course are to:

1. Support and guide teachers to learn more about technology
2. Facilitate discussions to support teachers' ability to implement technology into the curriculum / classroom.

[1] TML is differentiated from CALL by the inclusion of non-computer based technology.

3. Encourage independent and autonomous behaviour for continual implementation and reflection of technology into the curriculum / classroom.

Teacher Autonomy

Defining autonomy was important to this research as it is explicitly stated in research aim three and implicit in questions one and two. The current research draws upon ideas of critical reflection in professional development (PD) (Smyth, 1989), interactive reflection (Cooper & Boyd, 1998), continuous teaching reflection and analysis and personal teaching responsibility (Little, 1995), and the notion that dialogue can support transformation (Shor & Freire, 1987). Barfield et al. (2001) state teacher autonomy involved a 'readiness to engage in lifelong learning to the best of an individual's capacity' (p. 2), and identified one quality of an autonomous teacher was the desire for teacher led enhancements to their career. Furthermore, they stressed the importance of the collaborative nature of teacher development. These ideas were outlined in an initial briefing of teacher-participants when the plan for workshops and discussions was being presented, and were built upon throughout the year-long training program.

Theories and Pedagogy

An enormous amount literature has been published discussing the educational application of a large range of technological resources that have been made available through modern technologies such as using the computer, Internet, a wide range of software, videos and others. Some technology related books or articles that influenced this study include but are not limited to the following. Pusack and Otto (1997) describe pedagogy for enhanced learner interaction with multimedia, while Scinicariello (1997) prescribes ways to utilise delivery of technology-based language instruction. Dunkley (1997) talks generally about the use of the Internet as a resource for teachers, Lund (2008) reports of wikis increasing collaboration in a foreign language context, and Rink & Yamauchi (2008) describes the use of Moodle, a course management system, in universities in Japan. Jonassen, Peck, & Wilson, (1997) discuss ways to effectively include video into the classroom in a multitude of ways and Lamy & Goodfellow (1999) propose pedagogy to increase reflective conversation within computer-mediated communication. Schwienhorst (2008) talks about the use of synchronous online chat programs in tandem language learning projects whilst Chen (2005) advocates asynchronous discussions in the pursuit of learning both content and language. What we can glean from these studies is that these available technological resources are used in classrooms for effective learning. Technological resources used with the right pedagogy based on empirical research can have a great impact on students' learning.

Throughout the teacher training course, references were made to a variety of theories. Theories of learning like the Zone of Proximal Development (Vygotsky, 1978), constructivism (Von Glaserfield, 2005; Gould, 2005), and interaction based elements from the second language learning input hypothesis (Krashen, 1985), and Swain's Output Hypothesis (Swain, 1995) were all referenced in some way and influenced the practical applications of technology use to enhance language learning.

Procedure

Needs Analysis

A needs analysis was performed on all four teacher-participants who volunteered for the teacher training course. The participating teachers will be referred to as teachers from here on. The group, which consisted of male teachers, age group 30 – 37 years old, was informed that research would be conducted from this training. The needs analysis revealed that three teachers viewed themselves as having a low

intermediate technology level and one placed himself in the high intermediate category. Teachers were asked which technologies they felt comfortable using in their classroom (See Appendix 1) and which technologies they would like to learn more about to use in their classroom (See Appendix 2). Teachers were also asked to state goals that they would like to achieve by participating in the workshops and discussions which made up the course. To summarise, teachers wanted more confidence and more knowledge to create new or different activities and explain to students how to use a particular technology. The results of this needs analysis influenced the definition of teacher autonomy, which is pertinent to the research aims, and design of the PD.

Workshops and Discussions

Collaboration amongst colleagues and a desire to learn more about educational applications of technology in the classroom were already in place among the participants; all that was left was to structure the professional development. Richards & Farrell (2005) discuss the nature of teacher training and teacher development, with teacher training being more focused on short-term specific skills and teacher development being more focused on the long-term process of reflection on practice and beliefs. A hybrid mix of training and development was adopted in this instance to take full advantage of the different elements.

As this was action research with teachers who were completing rigorous teaching schedules as well as volunteering for this PD, the technology teacher training course was streamlined so as not to place too many demands on the participating teachers. After an initial meeting, there were a total of six workshops for teachers in one academic semester and eight discussions across the academic year. Pre-discussion and post-discussion emails were sent to promote reflection on ideas generated and to serve as encouragement. During the first meeting before the start of first semester, teachers brainstormed why technology should be used in a class to personalise the content and make a connection between the PD and their teaching. The list (see Appendix 1) was created during that first meeting but constantly discussed and referred to during the discussions and pre- and post-discussion emails. This was an attempt to relate the technology and educational theories to the ideas generated for classroom use. For instance, one idea suggested that technology could enhance a social learning environment thus connecting to the theory of social-constructivism.

Workshops were used to achieve research aim no.1 as teachers had had expressed the desire to learn more technology to use in the classroom, the need for which was confirmed by the needs analysis. A series of six workshops, based on the needs analysis (see Appendix 3), were created which aimed to facilitate a teacher's learning of technology. This teacher training utilised an experienced workshop facilitator who taught teachers how to use the technology and modelled it with classroom examples. The voluntary workshops were conducted on Moodle forums, *Hot Potatoes* (vocabulary activities), glossary, wikis, blogs and journals and web quests. There is a strong Moodle focus as Moodle is recommended by the university administration to use as a course management system (CMS) as well as a medium for language learning. Other support was given to each teacher individually as requested.

Discussions were used to directly compliment research aim no.2 and 3, and indirectly support research aim no.1. The rationale behind using discussions to promote PD was to complement the learning of technology by discussing and reflecting how to use it and in what creative ways it could be used. Cooper and Boyd (1998, p. 49) refer to three essential conditions for interactive reflection:

1. understand the variety of methods and approaches available
2. establish conditions of collaboration
3. establish ways to begin implementing these practices

Condition one was satisfied in the structure of the workshops and discussions. The professional development course provided teachers with workshops to learn and gain more knowledge about different technology available and then discussions were used to distribute information from each other about ways to use the technology in class. There was plenty of collaboration that took place amongst the teachers as teachers discussed, advised, supported and so on, in order to gain the most and facilitate their own learning through the workshops and discussions (condition two). Condition three, the culmination of condition one and two, concerned the active use, or 'executive control' (Roy, 1998, p. 82), of the knowledge taken from the workshops and discussions to teach and use different technology for the benefits of the students.

The training was year-long to complement the notion set forth by Little (1995) that continual reflection and PD may increase teacher autonomy. Discussions at the start of each unit of work helped provide support so that teachers could seek new ideas, express their own ideas, and ask for support. It was decided early on that this PD would try to incorporate ideas relating to aforementioned theories, and others, to ensure that teaching with technology and theory would still be connected. References to the list in Appendix 1 were made in the pre-discussion email to guide or prompt teachers in their preparation to think about theory and practice. Specifically, the post-discussion email contained references and a detailed explanation of any ideas for activities that were produced during the discussion and were written up using a standard form (see Appendix 4).

Availability of Technology

Teachers have different technology available for use in and out of their classes. Teachers of the freshman English class have four 90 minute lessons per week, two or three lessons in a standard classroom and one or two lessons in a Blended Learning Space (BLS). A standard classroom is equipped with a DVD and VCR player linked up to a television. A teacher can bring the following to the classroom: projectors, laptops for teacher use, MD players, digital cameras, digital video cameras and digital recorders. BLSs are equipped with DVD, VCR, CD, MD and cassette players connected to an amplifier, LCD projector and surround sound speakers. A desktop computer for the teacher is also connected to the projector. Additionally, there are 30 laptops supported by a wireless network system that links to the university network, the Internet and in room printer.

Forms of technology available for outside of the classroom are additional digital video cameras, student desktop computers with an English operating system and a green screen film studio. In the Self-access Learning Centre there are also Multi-Purpose Rooms (MPR) which include a desktop computer and a widescreen TV, which offers global satellite TV. Further to the MPRs, there are six speaking booths with desktop computers that host different pronunciation software aimed at aiding autonomous learners to improve many different aspects of speaking and pronunciation with both software and Internet-based resources. Lastly, there are a number of Edutainment booths which are private areas with a comfortable sofa so that students can watch satellite TV, videos and DVDs.

Method

Questionnaires were distributed to gather feedback and data on the PD training (See Appendices 5 and 6). Participating teachers were emailed a link to the survey website *SurveyMonkey*, where they were asked a series of questions. Answers were given on a Likert scale ranging from strongly agree to strongly disagree, with no neutral option. All four teachers were told that data garnered would be used for research purposes.

Results

When seeking data on research aim no.1, teachers were asked whether their knowledge of technology had increased (Q4). After one semester, two agreed with this statement and two disagreed, however, at the end of the year and training, three agreed and one strongly agreed. Further to this, teachers were asked if they felt more comfortable with technology (Q6). At the end of first semester, two teachers disagreed and one agreed, however, after semester two, only one disagreed, whereas two agreed and one strongly agreed.

Research aim no.2 was concerned with the discussions and when asked whether there was a supportive environment in the discussions (Q2), in both questionnaires one teacher responded that they agreed and three strongly agreed. When asked whether the discussions helped them (Q1), three teachers agreed and one disagreed with the same results on both questionnaires. Teachers were asked if they could see more ways to implement technology in the classroom/curriculum (Q8). At the end of the first semester, two agreed and two strongly agreed with this statement. However, in the end of year questionnaire, results dropped slightly with three agreeing and one strongly agreeing.

When gathering information on autonomous behaviour for research aim no.3, teachers were asked whether the discussions and workshops gave them more autonomy in their teaching (Q3). In the first questionnaire, two disagreed and one strongly agreed. Results improved slightly in the final questionnaire where only one teacher disagreed, but two agreed and one strongly agreed. When asked if they felt more empowered to use technology (Q10), three teachers agreed after the first semester, and at the conclusion of the second semester, three agreed and one strongly agreed. In the final questionnaire only, teachers were asked if they would feel more comfortable using technology in the future (Q11). Three agreed and one strongly agreed with this statement.

Discussion and Future Directions

Whilst the findings are limited to the context and should only be used as indicators of these particular teachers, generally, the results indicate that the workshops and discussions were successful as there was a strong increase in knowledge of technology. Most significantly, teachers became more comfortable using technology. Discussions probably contributed most to this as results indicate they were supportive and helpful for teachers in implementing technology both in and out of the classroom. The camaraderie, which was often visible, brought ideas out and drew teachers together to support each other. One particular discussion was facilitated by another teacher who enthusiastically took charge of the meeting. Additionally, other teachers volunteered to help each other by creating an activity or sharing the workload at some time throughout the year.

There was a slight increase in teacher perceptions of autonomy from the half way point to the end of the training. Results at the end of semester 1 revealed low results for teacher perceptions of autonomy so it was felt more critical reflection was needed. Therefore, at the start of each discussion in semester 2, there was time to reflect on activities or lessons with technology as to whether they were successful or not. This may have been a contributing factor for one teacher to change their answer to the question one semester later. The longevity of the discussions, collaboration and the continual reflection may have given teachers a chance to develop deeper understanding of applying technology into the classroom. There is anecdotal evidence that at least one teacher used Moodle much more in lessons than before, suggesting that this was the case.

There were several features of the discussions that promoted autonomous behaviour among participating teachers. The fact that teachers voluntarily gave their time throughout the year for the teacher training was a positive step. Teachers

identified their existing knowledge of using technology (See Appendix 2) and acknowledged that personal growth in this area will be beneficial to their professional career in education and the students they were teaching at the time. Further to this, discussions always included reflection. Teachers who had previously taught the course before were able to reflect on what technology was used for the same lesson the previous year. All teachers were able to reflect on potential technology implementation, the perceived educational benefits and the strengths and weaknesses of recent lessons using technology. Discussions always included collaboration from all teachers as was evident in the amount of ideas that were generated from two or more teachers. Moreover, there was more collaboration on projects, such as an accent and lip reading project where teachers worked together to produce the video including a series of *Hot Potatoes* quizzes (vocabulary activities) that were displayed in our CMS, Moodle. Teachers could be seen transforming to active users of technology throughout the year. One teacher started producing more *Hot Potatoes* quizzes, another created lessons using a clip from a movie. While lessons and activities using technology were created, links with educational theories and pedagogy were also made to ensure each would be beneficial for language learning.

It was this type of dialogue and collaboration that guided, helped and supported teachers to be more comfortable using technology. As Shor and Freire (1987) conclude, dialogue has the potential to change minds and gives tools to those who want to transform. In both surveys, teachers unanimously responded positively, with the statement 'I can now see more ways to implement activities using technology both in and outside of the classroom'. Apart from using it in class, a couple of teachers set assignments or homework which involved the use of technology. Furthermore, generally speaking, teachers felt more empowered to use technology as a result of this transformation, collaboration, and reflection, and indeed this was further indicated when all teachers agreed when asked if they would feel more comfortable using technology in the future.

The workshops and discussions ended with the academic year but if the opportunity came again, there would be a few different elements included in the PD. Whilst workshops and discussions were a good way to meet the aims and were clearly helpful, next time teachers could bring example lessons or activities to share with the group. This could lead to more critical reflection as teachers collaborate to analyse, evaluate and find different applications. Personalised one-on-one coaching has merits to address specific issues personally and mentoring including visits into the classroom could also be successful. Additionally, the questionnaire was limited in its scope of questioning and there should have been more open-ended questions delving into the issue of autonomous behaviour. A focus group or talk aloud session(s) might have captured more insight and shed more light on participating teacher perceptions on the teacher training PD.

Conclusion

The six workshops and eight discussions gave these teachers a foundation to learn more about technology and ways to include it in their classrooms. Results indicate some success, but also some room for improvement in future PD training styled in this way. It was an important goal of the research that participating teachers feel they could use this PD in the future and not just as another isolated training session. Most teachers felt empowered and began using technology more often in class. Whether teachers use technology sparingly in the future or in every class, hopefully they will know more about the technology available to them and feel more comfortable using it.

The Author

Nicholas Yates is an instructor in the Academic Bridge Program at Zayed University, UAE. His teaching experience includes Australia, Japan, and the UAE and his research interests are teacher cognition, educational technology, second language writing, language teaching methodology and approaches, and teacher professional development and training.

Appendix 1

Brainstormed list of why teachers should use technology in class.

- Students enjoy using technology
- It can be fun!
- KUIS has it available to us
- Develop and increase teacher's knowledge and skills
- Ability to increase language level
- Increased interaction between students using technology as medium
- Increased interaction with real language
- Ability to extend classroom beyond walls
- Ability to enhance learning experience
- Increase computer literacy skills
- Create a social learning environment
- Benefits kinesthetic learners through their hands on learning
- Benefits visual learners through the visual stimulus
- Benefits audio learners through some audio noise (although technology would be least beneficial for this group of learners…. Counter it with 20 mins of teacher talk!)
- Can create a physical product of their language learning
- To access an abundance of real English language using various forms of technology
- To produce students who are computers and technology literate
- Allows students to visualise their answer/discussion and then submit it to the web. Students can reflect or edit on their answer/discussion before submitting.

Appendix 2

Number of teachers who stated they felt comfortable with using the technology in a classroom (n = 4)

Technology	No. of teachers
PowerPoint	3
Internet: General use in class	3
Internet: Downloading	1
Internet: Taking screen shots	0
Internet: Blogs	0
Classroom setup of BLS classroom	2
Apple iMovie	1
Moodle: Uploading files	2
Moodle: Forums	1
Moodle: Chat	0
Moodle: Glossary	0
Moodle: Journal	1
Moodle: Wiki	0
Moodle: Linking a resource	1
Moodle: Sending a class email	2

Appendix 3

Number of teachers who stated they learn more about a technology to use in classroom (n = 4)

Technology	No. of teachers
PowerPoint	1
Internet: General use in class	2
Internet: Downloading	2
Internet: Taking screen shots	3
Internet: Blogs	3
Classroom setup of BLS classroom	1
Apple iMovie	2
Moodle: Uploading files	2
Moodle: Forums	3
Moodle: Chat	3
Moodle: Glossary	3
Moodle: Journal	4
Moodle: Wiki	4
Moodle: Linking a resource	2
Moodle: Sending a class email	2

Appendix 4

Standard form used in post-discussion emails.

Implementing Technology	
Activity Name:	Activity Length:
Activity Goals: ○ ○	
How to use technology:	
Equipment :	

Appendix 5

Questionnaire distributed at the end of semester 1, 2007

Semester 1, 2007
Question Prompt: I feel/I felt…

No.	Question	**strongly disagree**	**disagree**	**agree**	**strongly agree**
1	The ELI technology discussions have helped me.	0.0% (0)	0.0% (0)	75.0% (3)	25.0% (1)
2	There was a supportive environment created in the technology discussions.	0.0% (0)	0.0% (0)	25.0% (1)	75.0% (3)
3	The discussions and workshops gave me more autonomy in my teaching	0.0% (0)	66.7% (2)	0.0% (0)	33.3% (1)
4	My knowledge about technology increased.	0.0% (0)	50.0% (2)	50.0% (2)	0.0% (0)
5	The post-discussion emails with a list of possible ideas for technology implementation was useful.	0.0% (0)	0.0% (0)	75.0% (3)	25.0% (1)

Semester 1, 2007
Question Prompt: I feel/I felt…Due to the past semester's workshops and discussions…

No.	Question	**strongly disagree**	**disagree**	**agree**	**strongly agree**
6	I feel more comfortable with technology.	0.0% (0)	66.7% (2)	33.3% (1)	0.0% (0)
7	I feel more comfortable implementing technology both in and outside of my classroom/curriculum.	0.0% (0)	66.7% (2)	33.3% (1)	0.0% (0)
8	I can now see more ways to implement technology in my classroom/curriculum.	0.0% (0)	0.0% (0)	50.0% (2)	50.0% (2)
9	I can now see more ways to implement technology outside of my classroom/ curriculum.	0.0% (0)	0.0% (0)	66.7% (2)	33.3% (1)
10	I feel more empowered to use technology both in and outside of the classroom/curriculum.	0.0% (0)	0.0% (0)	100.0% (3)	0.0% (0)

Appendix 6:

Questionnaire distributed at the end of semester 2, 2007

Semester 2, 2007
Question Prompt: I feel/I felt…

No.	Question	**strongly disagree**	**disagree**	**agree**	**strongly agree**
1	The ELI technology discussions have helped me.	0.0% (0)	0.0% (0)	0.0% (0)	25.0% (1)
2	There was a supportive environment created in the technology discussions.	0.0% (0)	0.0% (0)	0.0% (0)	75.0% (3)
3	The discussions and workshops gave me more autonomy in my teaching	0.0% (0)	25.0% (1)	25.0% (1)	25.0% (1)
4	My knowledge about technology increased.	0.0% (0)	0.0% (0)	0.0% (0)	25.0% (1)
5	The post-discussion emails with a list of possible ideas for technology implementation was useful.	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)

Semester 2, 2007
Question Prompt: Due to the past semester's workshops and discussions…

No.	Question	**strongly disagree**	**disagree**	**agree**	**strongly agree**
6	I feel more comfortable with technology.	0.0% (0)	25.0% (1)	50.0% (2)	25.0% (1)
7	I feel more comfortable implementing technology both in and outside of my classroom/curriculum.	0.0% (0)	0.0% (0)	75.0% (3)	25.0% (1)
8	I can now see more ways to implement technology in my classroom/curriculum.	0.0% (0)	0.0% (0)	75.0% (3)	25.0% (1)
9	I can now see more ways to implement technology outside of my classroom/ curriculum.	0.0% (0)	0.0% (0)	75.0% (3)	25.0% (1)
10	I feel more empowered to use technology both in and outside of the classroom/curriculum.	0.0% (0)	25.0% (1)	50.0% (2)	25.0% (1)
11	In the future, I will feel more comfortable using technology both in and outside of the classroom/curriculum wherever I will teach.	0.0% (0)	0.0% (0)	75.0% (3)	25.0% (1)

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