Normalisation in flux: teachers' and learners' digital literacy in the Japanese university context

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Abstract. Although subsequent research suggests a more nuanced reality, Prensky's (2001) concept of the digital native remains a compelling and influential metaphor, continuing to shape thinking in education and beyond. This paper addresses self-reported digital literacy of 54 teachers and 477 learners in Japanese tertiary education. An online survey was administered to measure how often both groups use particular types of tools and perform certain tasks, and how comfortable they feel using technology. For initial analysis, some items were grouped into constructs labeled work, creative, and social. The researchers found that teachers appear to be both more comfortable and more frequent users of technology. This is particularly apparent with 'work' applications. According to the data, students report lower levels of comfort even for those tools which they use as frequently as teachers. In this paper, the authors speculate on why this might be and discuss implications for classroom practice.

Keywords: digital native, normalisation, Japan, digital literacy.

1.   Introduction

Innovations in technology have created incredible opportunities for language teachers and learners, and yet there are often many obstacles to overcome. Amongst these obstacles, fear, resistance, and misunderstanding from teachers, learners, and institutions can have a negative impact on the successful implementation of pedagogically sound uses of technology in language classes (Selwyn, 2013). In this research, the authors investigate the relationships between teacher, learner, and technology in the Japanese university context.

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The authors take as their starting point two widely cited concepts in the field: Prensky (2001) and Bax (2003, 2011). While Prensky's (2001) theory of the 'digital native' has been thoroughly examined and found wanting since its initial publication (e.g. Thomas, 2011, for an excellent deconstruction of Prensky's work), the idea of the digital native has taken hold in the mainstream. Bax posited and further developed a theory of 'normalisation' which he defined as the point at which technology is no longer seen as novel and is incorporated into language learning processes without comment (Bax, 2003, 2011). Both theories have an important place in seeking to understand the success or failure of technologies used for language education. The authors pursued two lines of inquiry suggested by these concepts. The first was to ascertain if and how teachers and learners differ and converge in their uses and perceptions of technology, and the second was to investigate if and how teachers and learners differ in their understanding of what is 'normalised'.

2. Method

Participants from universities across Japan were invited to complete an online survey[3]. Basic demographic data was collected, followed by items to ascertain ease of access to a number of mainstream technological tools, frequency of use of said tools, and the self-reported comfort levels of respondents in using those tools and performing common tasks using technology. Other than a few demographic items, teachers and students encountered the same questions, all of which were presented in both Japanese and English. Thirteen multi-item, Likert scale questions, totalling 154 discrete items, were presented, as well as three open-ended questions.

A link to the survey was distributed by the researchers in their own classes and in the classes of colleagues at other Japanese universities, as well as via social networks (Facebook and Twitter) and email. Though 714 respondents began the questionnaire, due to disqualifications and abandonment of the survey, the number completed was 477 by students and 54 by instructors, all at universities in Japan.

For initial analysis, we grouped some items into constructs labeled 'work', 'creative', and 'social'. Although not exclusively work-related, items associated with word processing, spreadsheet, presentation and email applications formed the 'work' construct. Software used to capture and edit audio, video, and photo files were gathered together as the 'creative' construct, and microblogging, social networking, chat, and messaging application items were considered as the 'social' construct.

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3. See supplementary material: https://research-publishing.box.com/s/1nj5bf658r8xea5mb213829rftocn0kv

For data analysis, numerical values were assigned to the Likert item responses. Items related to usage ranged from 0 ('Never') to 4 ('Every Day'), and items related to comfort ranged from 0 ('I Never Use') to 4 ('Very Comfortable').

3.   Results and discussion

Teachers appear to be both more comfortable and more frequent users of technology than students (Table 1), particularly 'work' tools (Table 2), which matches reports that students in Japan are not often expected to use these tools in their studies. Kubota (2014) noted that Japanese students often arrive at university with having only recently acquired a computer and with less experience using ICT for study than other countries. Murray and Blyth (2011) found that 55.1% of university students in Japan reported never or almost never using word processing software, rising to 78.5% for presentation software and 85.7% for spreadsheets. Therefore, it is not surprising that respondents who are not working (i.e. students) would be less likely to use, and therefore less comfortable with, technology designed to perform office tasks. Meanwhile, students do express interest in using these tools in language learning, and it seems likely that students recognise the need to master the technology they will need in the workplace and want to overcome the lack of comfort they feel.

Table 1.   General use and comfort levels

	Students	Teachers
Use	1.774	2.329
Comfort	2.001	3.009

Table 2.   Work construct use and comfort levels

	Students	Teachers
Use	1.465	2.826
Comfort	1.924	3.492

Even when students report higher average rates of usage relative to teachers (when teacher-reported rates are considered equal to one) they do not report higher levels of comfort on any item (Table 3). The highest comfort level reported by students, touchscreen text input, is only .97 times the reported comfort level of instructors. Students report writing text with pen and paper at a rate 1.17 times that of teacher responses, yet their comfort level is reported at only .84 times that which teachers report. Students are also more likely to write on paper than teachers, while teachers are more likely to use a keyboard or speech-to-text software than

students. One explanation would be that students, in Japanese tertiary education, are often asked to use pen and paper in class and teachers are more likely to own (or have exclusive use of) desktop and laptop computers. There are suggestions that contemporary students are less adept at touch-typing than their predecessors due to their increased use of touchscreen devices, but whether this can be ascribed to preference or necessity we cannot be certain. It may be that today's students 'grow into' keyboards as they join the workforce.

Table 3.   Student levels of usage and comfort compared to teachers', where teacher levels equal one

	Use	Comfort
Overall	.76	.65
Application installer	1.01	.64
Video streaming	1.01	.85
Taking photographs	1.01	.86
Photo editing	1.03	.86
Text-based chat	1.03	.86
Inputting text with a touchscreen	1.06	.97
Writing text with pen and paper	1.12	.84
Video recording	1.14	.84
Blogging/Microblogging/Sharing	1.17	.84

Teachers need to be aware that what is 'normalised' for them (e.g. word processing and email software) may not be for students. Whether teachers provide specific training, or allow students time to figure things out for themselves, a lack of student comfort with commonly used software needs to be considered when designing tasks, lessons, and curricula. However, that does not mean that teachers should switch to using tools which students report being more experienced or comfortable with. For example, students report using some creative and social tools at higher or identical levels to teachers, such as microblogging sites Twitter and Instagram. Although students use tools in the social construct frequently, they report less interest in using them for language learning than 'work' tools or 'creative' tools. It is possible that they would like to keep social tools for themselves, and may resent an encroachment upon technology they see as personal.

4.   Conclusions

Although the survey had a fairly high attrition rate, length and online delivery may possibly have resulted in a pool of participants skewed towards those more

comfortable with technology. The data suggests that university students in Japan are less frequent and less comfortable users of technology than their teachers. Increasing self-confidence and changing ways of working may be more important than date of birth – the younger teachers in our sample are, by Prensky's (2001) definition, digital natives themselves.

The next step in our research will be to conduct interviews with many of the teacher participants, and richer description is expected to emerge at that stage. We also believe that replicating the study with a paper based survey may yield different data and that investigating in other contexts would prove enlightening.

5.   Acknowledgements

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