

Japanese university students' self-assessment and digital literacy test results

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Abstract. Study abroad programs provide an opportunity for students to accelerate language learning and acquire cultural capital. Evaluations of returnees from study abroad programs however, have revealed that this is not always guaranteed. To promote a more positive academic and culturally-inclusive study abroad experience, one recommendation is for language teachers to focus on students' digital literacy. Given the reported levels of poor digital literacy among Japanese freshmen students, the researchers in this current study were attempting to determine if this wider trend applied to students at their private university in Tokyo. The authors surveyed first-year College of Tourism and Hospitality (CTH) students and will report on their responses to two sections of a computer literacy questionnaire originally created by [Son, Robb, and Charismiadji \(2011\)](#). The first section focuses on self-assessment of digital skills, while the second section reports on the results of a 10-item digital literacy test.

Keywords: digital literacy, Japanese university, CALL, English for specific purposes.

1. Introduction

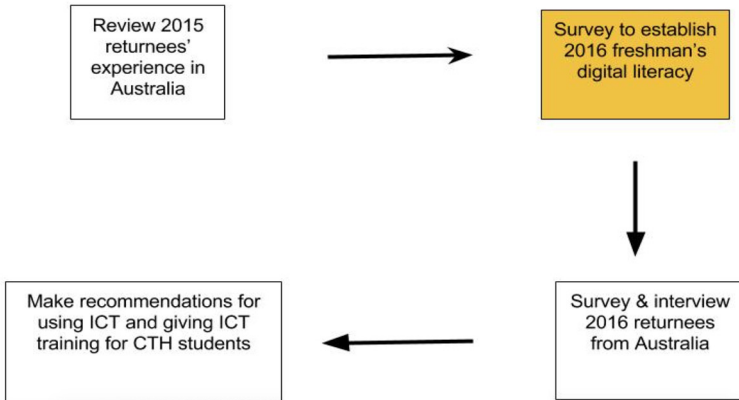
This paper reports on the second phase of the researchers' investigation into how to prepare Japanese students in the CTH for a one-year study abroad program in Australia. In the initial phase, returnees from the first student cohort of the program were surveyed ([Milliner & Cote, 2016](#)). Key findings from this investigation were that students appear interested in improving their digital literacy; they recognize the necessity of digital literacy in higher education and beyond; many believed that their digital skills were inferior to their classmates in Australia; and, they reported using their computer more in Australian university classes.

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In this second phase, 112 students from the 2016 freshmen cohort were surveyed on issues relating to computer ownership and accessibility, capability of performing tasks on mobile devices and PCs, personal and professional use of computers, and general interest in Computer-Assisted Language Learning (CALL). In this paper, however, student's self-assessment of digital skills and digital literacy test results are described.

Figure 1. The Information and Communications Technology (ICT) skills review for CTH students



2. Literature review

2.1. Digital literacy

Learning to use digital technology has become a crucial step in developing literacy in the twenty-first century (Goodwin-Jones, 2000) and teachers are being asked to consider how they can effectively prepare students to develop and exercise their digital literacy skills. Corbel and Gruba (2004, p. 5) argued that students need computer skills to

- communicate effectively in society;
- interact with family and friends;
- function effectively in the workplace;

- learn new ideas and for fun and pleasure.

While traditional ‘literacy’ has been defined as the ability to read and write, the term ‘digital literacy’ appears to be more complex. The [U.S. Department of Education \(1996\)](#) defined digital literacy as having “computer skills and the ability to use computers and other technology to improve learning, productivity and performance” (p. 5). [Barrette \(2001\)](#), and [Corbel and Gruba \(2004\)](#) argue that digital literacy contains two core components: (1) ability to control basic computer operations, and (2) using one’s understanding of computers for problem-solving and critical thinking.

2.2. Japanese student literacy

Although Japan is perceived as digitally-wired, it is well documented that digital literacy among Japanese youth is falling behind other countries. This is despite the fact that the Japanese Ministry of Education, Sports, Science and Technology (MEXT) ordered the inclusion of information computing technology in high school curriculums ([MEXT, 2011](#)). In a 2011 report by MEXT, they acknowledge that ICT utilization in Japanese schools has not been advancing at rates similar to those in other industrialized nations. In 2015, the Organization for Economic Co-operation and Development ([OECD, 2015](#)) released a critical statement on the literacy of Japanese youth, noting that 25% (age 16-29) lack basic computer skills. One explanation is that schools are not responding to the MEXT mandate to implement ICT training. In fact, contemporary reviews of freshmen Japanese university students also noted that many students did not use ICT in high school and most have low levels of digital literacy and confidence using digital tools ([Gobel & Kano, 2014](#); [Lockley & Promnitz-Hayashi, 2012](#); [Murray & Blyth, 2011](#)).

2.3. Digital literacy and study abroad

For CTH students studying in Australia, poor digital literacy may be limiting language-learning opportunities ([Murray & Blyth, 2011](#)), chances to engage in Australian culture ([Kinginger, 2011](#)), and their ability to function in the foreign society ([Brine et al., 2015](#)). ICT skills were identified by [Jarman-Walsh \(2015\)](#) as crucial for students studying abroad because they often work independently to solve personal and academic-related problems. Understanding multimedia and social networking programs have also been cited as useful approaches for students studying abroad because they can (1) access resources and strengthen relationships ([Jarman-Walsh, 2015](#)), (2) practice informal communication with peers ([Kinginger, 2011](#)), and (3) explore the communicative norms used by locals ([Kinginger, 2011](#)). While most study abroad research focuses on development of cultural awareness

and language proficiency (e.g. [Sato & Hodge, 2015](#)), the examples above illustrate the role digital literacy skills can play in academic and social environments.

3. Research methods

3.1. Research questions

This study aimed to answer the following questions:

- At what proficiency level do freshmen students rank their digital literacy?
- What are the actual levels of digital literacy based on results from a digital literacy test?

3.2. Participants, demographics and computer experience

Responses from 112 freshmen students in the CTH were analysed for this study. A total of 29 males and 83 females (age 18-19) responded to the questionnaire. All (112) own a smartphone and a PC. When asked whether they used a computer daily, two thirds responded 'yes'. As a follow up, they were asked to specify where they usually used their computer. The locations identified most included: home (77), anywhere (30), and school/university (9).

3.3. Questionnaire

The 2016 freshmen cohort were asked to complete a digital literacy questionnaire adapted from a seminal survey created by [Son et al. \(2011\)](#). The entire survey contained 28 items, however only two sections are focused on for this report.

4. Results

4.1. Self-assessment of digital skills

When asked to self-assess their digital proficiency, the responses revealed profoundly low appraisals. Displayed below ([Table 1](#)), very few students perceived their skills as being 'above average' or 'high' for each question.

Table 1. Self-assessment of digital skills

Question	Low	Below Average	Average	Above Average	High
How would you rate your computer skills?	30	34	39	8	1
How would you rate your Internet literacy?	29	35	41	7	0
How would you rate your typing skills?	41	26	36	8	1

4.2. General computer knowledge

Students answered ten multiple-choice questions designed to appraise general computer knowledge. Surprisingly negative results were observed for the majority of these questions (see Table 2 below). In only four out of the ten questions, more than 50% of the responses were correct, and in six out of the ten items, ‘I don’t know’ was selected by more than 50% of students.

Table 2. Digital literacy test results (Son et al., 2011)

Question	Correct response %	I don’t know %
What is a folder?	77%	13%
How many characters are allowed for a tweet?	69%	21%
What is a URL?	63%	12%
Which of the following is not a search engine?	55%	35%
What is the main brain of the computer?	32%	52%
What is the main function of a server in a networked environment?	31%	54%
What kind of program is used to edit a GIF file or a JPEG file?	28%	56%
How much information fits on a CD and a DVD?	16%	67%
Which of the following is considered poor email etiquette?	6%	39%
What are WAV and AIFF examples of?	7%	82%

5. Discussion

The authors of this investigation established that freshmen in their Japanese university believe their digital literacy proficiency to be very low. These low appraisals were reinforced by poor results in the digital literacy test section. One limitation in this study is a reported tendency among Japanese students to

modestly self-assess their own digital skills (Lockley & Promnitz-Hayashi, 2012). A practical test of digital tasks (e.g. analyzing a spreadsheet) may have provided a better assessment. However, the evaluation of results in the digital literacy test questions somewhat validate their own low self-assessment.

6. Conclusion

To prepare students for a study-abroad program, the authors set out to identify freshman students' level of digital literacy. The results echo other Japan-based studies, as almost all students had very low self-assessments of their digital skills, and respondents returned very poor results in the digital literacy test. Although smartphone ownership and personal computer ownership is at 100%, students do not appear to be using these devices in any depth.

After completing a more detailed report of this survey's data, the researchers will interview the second group of returnees upon returning from Australia in September 2016. The goal is to develop a training program which appropriately equips students with the digital skills that can support a more prosperous study abroad experience.

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