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Digital Literacies and Study Abroad: A Review of Japanese University Students in Australia

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Abstract

A study abroad experience represents a wonderful opportunity for foreign language learners to elevate their language proficiency and deepen intercultural understanding. In addition to the development of language skills, an important consideration for directors of contemporary pre-embarkation programs is the strengthening of students' digital literacies so that they can effectively function in the foreign academic and social contexts. Considering the poor digital literacies reported among Japanese university freshmen, the researchers of this study questioned whether inferior digital literacies restricted their students' one-year study abroad experience in Australia. If so, did it restrict access to or engagement with academic and social communities while studying abroad? Considering data received via surveys and focus group discussions with returnees, this report focuses on a review of students' technology use and digital literacies integration while studying abroad in Australia. Important results include: digital literacies prior to embarkation are inadequate; computers were more frequently used in the study abroad context (Australian universities) compared to the Japanese university; and, minimal consideration is dedicated to developing digital literacies prior to the study abroad program.

Keywords: Study-abroad, Japanese University, ELF, Digital-literacies, ICT skills

Introduction

With a goal to prepare their Japanese university students for a more productive one-year study abroad program in Australia, the authors considered whether or not a digital literacy training component ought to be included in the preparatory training prior to embarkation. This report marks the final component of a larger, four-stage (See Figure 1) investigation into the digital literacies of students from the Department of Tourism and Hospitality Management (DTHM). More precisely, it will detail survey results and focus group discussions (FGDs) with the 2016 returnee cohort. In response to the observations, the paper will then offer recommendations for digital literacy training and practical applications that future study abroad candidates ought to receive during pre-embarkation and general course study.

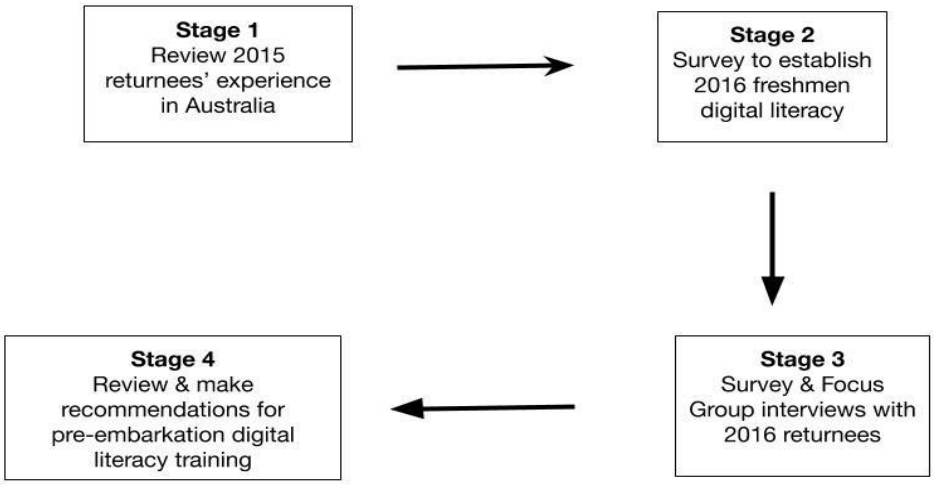

Figure 1 *Stages of the digital literacies review for DTHM students*

Literature Review

Digital Literacy

For more than two decades now the concept of *digital literacy* has been discussed and debated by teachers, researchers and, more recently, policy-makers alike. The idea of digital literacy is now so widely recognized that a growing number of new, nuanced terms have emerged in our understanding of what it means to be "digitally literate". The traditional notion of 'literacy' has simply been defined as the ability to read and write, whereas the term 'digital literacy' appears to be more complex as it has evolved in step with rapidly developing digital technology. Barrette (2001), along with Corbel & Gruba (2004), argues that digital literacy contains two fundamental components: (a) ability to control basic computer operations, and (b) using one's understanding of computers for problem-solving and critical thinking. More recently, Dudeney, Hockly, and Pegrum (2014) identified digital literacy as being able to make use of technologies at one's disposal and understanding the social practices that surround the use of new media. In a closer reference to the notion of 'literacy', Ware, Kern and Warschauer (2016, p. 307) argue that digital literacies refer to the act of reading and writing on electronic devices and the internet. And, in order to engage in digital environments effectively, a user is required to have a degree of skill, and knowledge of the practices required. The authors further note that it is also conceivable for an individual to be considered digitally literate in some ways and not in others. In light of these evolving interpretations of digital literacies, we define it as having the skills and pragmatic understanding to manipulate, read and write using electronic devices.

Digital Literacies and Japanese Students

Despite being perceived as a technologically advanced country, digital literacy levels among Japanese youth are reported to be inferior compared to other developed nations. This reality was recognized by the Japanese Ministry of Education, Sports, Science and Technology (MEXT) in 2011 and in response, mandated the inclusion of information computing technology (ICT) in all high school curricula. Later, in 2015, the Organization for Economic Co-operation and Development (OECD) released another condemning assessment of the literacies of Japanese youth, noting that 25% (ages 16-29) lacked basic computer skills. One explanation could be that Japanese schools have not reacted to the 2011 MEXT mandate to implement ICT training. In fact, contemporary reviews of university freshmen have corroborated this suspicion as they found that many Japanese students are not using ICT in high school and most high school graduates have only basic digital literacies and a lack of confidence using digital tools (Cote & Milliner, 2017; Gobel & Kano, 2014; Lockley & Promnitz-Hayashi, 2012; Lockley, 2011; Murray & Blyth, 2011).

Digital Literacies and Study Abroad

Study abroad programs offer opportunities for language students to improve proficiency and acquire cultural capital (Byram & Feng, 2006). According to Freed (1995, p. 5), a study abroad program combines language learning and content classes in a classroom setting with an immersion experience living inside the native speaking community. For DTHM students studying abroad in Australia for one year, the researchers wondered whether a potential lack of digital literacies was handicapping their study-abroad experience? Poor digital literacies have the potential to limit language-learning opportunities (Murray & Blyth, 2011), reduce chances to engage with the local culture (Kinginger, 2011), and impede day-to-day life in the foreign society (Brine, Kaneko, Heo, Vazhenin, & Bateson, 2015). Moreover, the digitalization of university campuses across the world emphasizes the need for students to be digitally literate. As digital literacies play an integral role in the make-up of contemporary academic literacies, it is being argued that digital literacies be addressed in preparatory programs for foreign students, such as an English for academic purposes (EAP) courses (e.g., Simpson & Obdalova, 2014). Jarman-Walsh (2015) argued that ICT skills are essential for students studying abroad because they often have to work independently to solve personal and academic-related problems. Developing multimedia and social networking literacies are also recommended for pre-embarkation programs because students can learn how to: (a) access resources and strengthen relationships with foreign communities (Jarman-Walsh, 2015), (b) practice informal communication with future peers (Godwin-Jones, 2016; Kinginger, 2011), and (c) explore the communicative norms used by locals (Godwin-Jones, 2016; Kinginger, 2011). While most of the literature on pre-embarkation training for study abroad students focuses on the development of cultural awareness and language proficiency (e.g., English, 2012; Page, Cohen, Kappler, & Chi, 2002; Sato & Hodge, 2015), the examples above illustrate the ascendency of digital literacies in academic and social environments.

While the benefits of being digitally literate appear to benefit students in the study abroad context, access to social networks and other telecommunications technology can create a situation where students 'never really leave home' during their overseas travel. An illustration of this is Kinginger's (2008) case study concerning an American student studying abroad in France. The young woman made almost no progress acquiring French because she spent most of her time closed off inside her apartment talking online to friends and family back home. Coleman and Chafer (2010) highlight that "study abroad is not a static phenomenon, not least because, thanks to telecommunications technologies, abroad is less abroad than it once was" (p. 165). Godwin-Jones (2016), also described a number of studies detailing regrettable study abroad sojourns (e.g., Kinginger & Belz, 2005; Stewart, 2010), and noted that even if students

are warned about these potential pitfalls, "students are not likely to abandon their social networks while abroad" (p. 2). Nevertheless, he made the case that if digital literacies are used appropriately, they can, in fact, have a very positive effect on a student's study abroad experience. Given these inclinations to be tethered (in some cases exceedingly) to one's home country, family and friends, it is essential that contemporary study abroad students receive appropriate digital training. Future study abroad students must understand that a fixation on 'life back home' could prevent them from having the full, study abroad experience and thus, students need to be disciplined about their use of digital, communicative tools.

Review of Research Stages 1 and 2

A brief description of the first two stages of this larger research project, along with significant findings, are presented below.

Stage 1 Review

Initially, 73 students from the 2015 group of returnees were surveyed using an online questionnaire five months after they returned from Australia (Milliner & Cote, 2016). The questionnaire asked students to self-appraise their digital literacy skills and competence using computers while studying in Australia. Important findings indicated that students expressed interest in strengthening their digital literacies; they recognized the necessity of digital literacies in higher education and beyond; many believed that their digital skills were inferior to their classmates in Australia; and, they reported using computers more in Australian university classes. To access deeper reflections from the 2015 returnee group, 19 of the students were invited to complete an open-ended survey. From this survey, we learned that students were using computers in Australia to: (1) write essays and reports, (2) create slides for presentations, (3) access the university's content management system (CMS), (4) create Google documents, and (5) stream media (e.g., YouTube). These open-ended questions also gave us a window into how students were self-evaluating their digital literacies. When asked if they thought their peers in the Australian classes had better computer skills than they did, over half (52%) said 'yes'. When prompted to provide concrete examples and reasons for this perceived inadequacy, the respondents cited their unsophisticated presentation slides, slower typing speeds, and limited opportunities to use a computer in the Japanese university context. Yet, surprisingly, only 40% of the respondents believed that they would have benefitted from pre-embarkation digital literacies training. When asked to clarify, those students opposed to a pre-embarkation training regarded their competence using Microsoft Office tools as "good enough" to succeed in the Australian university context. They further supported this view by saying that the Australian university provided satisfactory technical support. For those students in favor of extra pre-training, they indicated the high volume and consistency of computer use in Australian classes as the key rationale for their stance. Moreover, a few respondents shared their observations and conversations with classmates who struggled with the volume of computer-based tasks, noting that some students were so fixated on learning how to use their PC that they were unable to focus on language learning and class assignments.

Stage 2 Review

In Stage 2, the researchers adapted Son, Robb and Charismiadji's (2011) seminal digital literacy questionnaire for language learners to establish the digital literacy levels of the 2016 freshmen cohort (Cote & Milliner, 2017). The questionnaire focused on issues relating to computer ownership and accessibility, ability to perform tasks on PCs and mobile devices, personal and

professional use of computers, and general interest in CALL. Notable findings revealed that digital literacy levels among this cohort echoed the alarmingly low levels reported in other contemporary Japan-based studies (e.g., Gobel & Kano, 2014; Lockley, 2011; Murray & Blyth, 2011). In particular, most participants cannot use productivity applications effectively, which prevents students from fulfilling Barrette's (2001) and Corbel and Gruba's (2004) second tenet of digital literacy: using computers for problem-solving and critical thinking. Although all students owned a smartphone and PC, they did not appear to be using these devices for anything other than accessing social networks, emailing, browsing the Internet, and watching videos (i.e., YouTube). Moreover, the 2016 freshmen were unable to use technology effectively for language learning purposes.

Gaps in the Literature

Most research on students studying abroad focuses on either (1) the development of students' cultural awareness (e.g., Nguyen, 2017; Sato & Hodge, 2015), (2) language acquisition (e.g., Freed, 1995; Jochum, 2014), and (3) the efficacy of pre-embarkation programs (e.g., English, 2012). However, this study attempted to report on another area for potential development in the study abroad context: digital literacies. Although we surveyed the 2015 returnees (Milliner & Cote, 2016) and gained some valuable insights, we felt the need to establish a more accurate picture of how students were exercising their digital literacies in Australia. We did this by (a) questioning returnees immediately after they came back to Japan (as opposed to five months later), and (b) using focus group discussions to hear more details and specific examples relating to their study abroad experience.

Research Methods

Research Questions

This study aimed to answer the following questions:

1. Did students experience any challenges related to digital tools or literacies during their one-year study abroad in Australia?
2. What steps can be taken to strengthen students' digital literacies before they travel to Australia?

Participants

104 students entered the College of Tourism and Hospitality Management (CTHM) in April 2014. After attending university in Japan for three semesters (April 2014-August 2015) they embarked on a one-year study abroad program (September 2015-September 2016) in Melbourne, Australia where they attended one of three universities in Melbourne (Swinburne University, Victoria University or Deakin University). In addition to attending ESL classes and English for Academic Purposes (EAP) classes, once they reached an appropriate proficiency level, they could enroll in diploma-level classes offered to all university students. Because of their chosen field of study, most of the classes were related to business, economics, marketing or tourism. During their final semester at the Australian university, the students were placed in internships around the city. Some found internships in the service industry (hotels, restaurants, etc.), some were given assignments with community events organizations (festivals, sporting events, etc.), and some interned at volunteer agencies in Melbourne.

During the first three semesters at the Japanese university, the students attended an English for Academic Purposes (EAP) class four days per/week, an independent English study session one-day per/week, and a fifth class which focused primarily on preparation for the TOEIC test. All English teachers at the Japanese university are advised to concentrate on academic skills and TOEIC training, and although not strictly prescribed, teachers were encouraged to employ computers in the classroom and provide opportunities for students to use computers for learning purposes. Apart from the English program, the CTHM curriculum also necessitates that all students enroll in a semester-long statistics course where a large portion of their computer activities revolve around creating Excel spreadsheets and learning how to apply functions to sets of data. In addition, the students use their PC in other classes for research and for writing various reports and analytical essays.

Data Collection Procedures

An Online Survey

An online survey was emailed to students immediately after they returned from Australia in September 2016. Participation in the questionnaire was voluntary. At the beginning of the questionnaire, the researchers explained the purpose of the study along with their intentions to use the data collected. A total of 78 responses (75% of returnee cohort) were received. The survey instrument primarily targeted students' experiences, both academic and personal, of using digital technologies while studying and living in Australia.

The questionnaire, created by the researchers using Google Forms, consisted of ten, closed-ended items which asked students to reflect upon their experiences using digital technology in Australia compared against the experiences they had in Japan, prior to studying abroad. It should be noted that no rigorous statistical measurements were used to analyze the data. A closed-ended format was chosen so as to (a) make for easier comparison with a survey of the 2015 returnee cohort, and (b) the researchers believed that they would be able to glean deeper explanations during the focus group interviews. The 10 survey items were developed to address research question number one: Did the students encounter any challenges or difficulties related to digital literacies during their time in Australia?

Two Focus Group Discussions (FGDs)

Following a review of the survey results, two FGDs were staged. The FGD format was adopted because of its flexibility and its ability to understand group norms. FGDs create a context to observe how individuals within groups (i.e., the returnee cohort) react to the insights of others and how they defend their own positions among the group (Barbour & Schostak, 2005).

A group of eight students, plus the two researchers, met for the first FGD, and a group of five students, plus the two researchers, met for the second FGD. One researcher acted as moderator, while the other researcher observed the group and took notes on the discussions and the sequence of talk (Kitzinger & Barbour, 1999). Students were allowed to speak in English or Japanese. The interviews ran for approximately one hour and they were recorded on video. Both FGDs followed a format where the moderator presented a summary of the questionnaire results (generally in graph form) on a large screen and then asked the participants to comment on or expand upon their personal responses. They were also asked to consider why they thought the different trends emerged. Wherever appropriate, the moderator would intervene to ask for clarification, more details or simply to guide the discussions back towards important themes.

At the evaluation stage, multiple degrees of data analysis were conducted to move from

a simplified level of text-based categories to higher-level theoretical constructs. Following the discussion, the researchers met to review their notes as well as the transcribed data, and they watched the video together. While watching the video, the researchers independently reviewed the transcript and their notes once more. To negate the influence of the researchers' subjectivity, and to strengthen the reliability of the results, two independent researchers with experience in qualitative research viewed the same video recordings and took notes about key themes that emerged. Then, a consolidative step was taken where the researchers' transcripts and the two independent reviewers notes were compared to establish a list of text-based categories.

Results and Discussion

Questionnaire Results

A summary of the survey results can be seen in Table 1 below. The students overwhelmingly believed computer skills are relevant to their future (96%) and that it is important to develop practical computer skills while they are studying at university (99%).

Table 1
Summary of responses (post-study abroad) from the 2016 cohort

Question/Statement	Response A (%) 2016 cohort (N=78)	Response B (%) 2016 cohort (N=78)
Do you think computer skills are important for your future?	Yes (96%)	No (4%)
I believe it is important for me to use computers in university for learning.	Yes (99%)	No (1%)
Where did you use a computer more: in Japan university or Australian university?	Australian university (78%)	Japan university (22%)
In Australia, did the other students in your classes have better computer skills than you?	Yes (62%)	No (38%)
Compared to my Japanese university, while studying in Australia I used my computer more to support my language learning.	Yes (86%)	No (14%)
Do you think you should have a computer training class before you leave to study in Australia?	Yes (56%)	No (44%)
Which device did you use the most in your Australian classes?	PC (56%)	Smartphone (44%)

Concerning computer use inside their Australian university classes, almost 80% believed they used a PC more frequently. More specifically, digital device usage inside Australian classrooms was evenly split between computers (56%) and smartphones (44%). Table 2, reports on some of the applications most frequently used by respondents during their classes.

Table 2
How did students use their computer while studying in Australian university classes? (n=78)

Task (Application)	Frequency %
Essay writing (e.g., Word)	96%
Internet research	78%
Presentations (e.g., PowerPoint)	76%
Email	65%
Watching video (e.g., YouTube)	55%
Using the university's system (e.g., Blackboard & Google Classroom)	47%
Dictionary	44%
Listening to audio	39%
Reading (e.g., news websites)	39%
Data analysis (e.g., Excel & Google Sheets)	37%
Cloud Collaboration (e.g., Google Drive)	19%

When asked to compare themselves against their peers, over 60% believed their international colleagues in the Australian university classes had more advanced computer skills. It is interesting to note that this figure increased more than ten percent from the previous cohort (44%).

Concerning language learning specifically, 86% believed they used their computer for this purpose more so while they were studying in Australia.

Another questionnaire item asked if they would possibly have felt better prepared if they had received a formal digital literacies training before traveling to Australia. In response, just over half of respondents (56%) believed that this would have been beneficial.

While studying abroad, when students met a problem related to digital literacies, it appears that students often worked independently to solve the issue. Table 3 below provides a summary of student responses to the question: *How did you learn new computer skills while studying in Australia?* The most frequently selected response to this item was "by myself". Students also appear to seek help from others around them with 46% selecting "asking a friend or classmate" and "asking my teacher".

Table 3
How did students learn new computer skills while studying in Australia?

Approach	Frequency %
By myself	59%
Asking a friend or classmate	46%
Asking my teacher	46%
Searching on the internet	24%
Asking my host family	9%

Focus Group Discussion Results

In this section the different text-driven categories borne out of the FGD will be introduced. Table 4 presents a summary of the different categories and some of the students' comments (italics) that relate to each specific category. It should be noted that the students are numbered based on (a) their FGD group (i.e., 1 or 2), and (b) number inside the FGD. For example, the third student from the second FGD would be referred to as S2.3.

Table 4

Text-driven categories, student comments, and percentage of comments

Category & *Comments*	Frequency (n=13)
A. Increased computer use at the Australian university	10
1. *In Japan, some teachers didn't let us use our computers in class - S1.1*	
2. *The teachers (in Australia) always put a file on Blackboard, so we shared information during the class like reading that, thinking and writing a report - S1.2*	
3. *In Swinburne university there were so many laptops…. in the library and classroom. Everywhere! There were so many so it was a common thing - S1.6*	
4. *In the diploma courses, most tasks were done on a pc - S2.1*	
5. *We used a PC for all subjects (in Australia). We didn't use paper at all - S2.5*	
B. Digital literacies required in the Australian university	7
1. *In the English language program we had to use VoiceThread - S1.1*	
2. *In marketing class, the teachers asked us to research using the library's online system. In English class, the teachers recommended Ted talks - S2.2*	
3. *I listened to audio from the Deakin University website - S2.3*	
4. *I used Movie Creator for a group project - S1.8*	
C. Digital literacy skills are inferior to classmates	6
1. *Some of my classmates in the English program were going into IT courses, so they had very good skills - S1.5*	
2. *My Vietnamese classmate in a group project could create excellent PowerPoint slides - S2.1*	
3. *The Japanese students didn't know how to use Word and Excel, so the Vietnamese students helped - S2.5*	
4. *When I used Excel, I didn't know how to create a difficult graph, but Chinese people know this - S2.3*	
D. Digital literacy problem solving	2
1. *We asked "Google Mama" - S1.1*	

2. I researched on the internet in Japanese - S2.1	
E. Digital literacy training pre-embarkation	10
1. I think we need more training in how to find information in English websites - S1.2	
2. I think we need more training in PowerPoint, because it shows our skill to everyone - S1.5	
3. I think all students should be required to take the MOS (Microsoft Office Specialist) exam before Australia - S1.7	

Note: (1) The frequency figures refer to the number of participants who made comments relating to specific categories in both FGDs.
(2) Some comments were shortened by the researchers to fit inside this table.

Increased computer use at the Australian University

When FGD participants were presented with the survey result that almost 80% reported using a PC more frequently for study purposes in the Australian university, ten students shared their reasons for taking a similar stance. Some students reflected on the lack of computer use in their Japanese classes. For example:

S2.1: *Japanese not so many reports, but (in Australia) every class do a homework, homework, homework every week. (The group, upon hearing this comment, nodded and voiced their agreement).*

S1.7: *In Deakin, most of the homework should submit by internet, but at Tamagawa University (Japanese University) that depends on the class... so I chose the Australian university.*

One student also attracted agreement from the rest of the group when she highlighted that she could recall using her digital literacies to perform tasks in only three classes prior to leaving for Australia.

S2.5: *Research methods. Just writing. In class, just ELF and Statistics (nodding agreement from everybody).*

In addition, some students highlighted the volume of tasks they had to complete digitally and the sheer ubiquity of computers found throughout the Australian university campuses.

S2.5: We used a PC for all subjects (in Australia). We didn't use paper in Australia.

S2.1: *In Swinburne many PCs in the library but in Tamagawa (Japanese) university. No PC! (This remark received strong agreement and support from rest of the group). We don't have many chances to use a computer in Japan.*

S1.4: *In Swinburne university there are so many computer laptops...in the library and in the classroom, everywhere. There are so many laptops and computers and it was so common things.*

S2.2: *Most of the computer works is done in the university (Australian). Actually, our university has a library and we can use a computer 24 hours.*

There was also some agreement among the second FGD that the students find it bothersome to have to take their PC to the university in Japan each day. One student mentioned:

S2.5: *I don't want to bring a PC to this university (Japan).*

This issue may be worth exploring a little further as the Japanese university does not have computer laboratories, nor does it have common use laptops available for students. If the university is going to require students to purchase their own device, they may need to recommend lighter PC models to purchase. Additionally, teachers ought to consider approaches using student's smartphones if students are reluctant to have to take their PCs to university every day.

Digital literacies required in the Australian university

While the questionnaire asked students to check which applications or digital literacies they were required to use in the Australian university context, the FGD asked students to share some of their reflections and experiences about using their digital literacies. One important theme addressed by students was the importance placed on presentations.

S1.4: *I feel we had many group work...group presentations... (Moderator asks: how did you do group presentations?) we had a computer in the class so we... we make PowerPoint and after finish, share... we send email... for example, I make PowerPoint, she is the leader.. after I send to her.*

S1.1: *(referencing Prezi).. You should tell them those kinds of things (as in other presentation software).*

S2.4: *In Deakin we have presentation every month so we have to make PowerPoint for present*ation so we have to use computer.

S1.5: *For me its PowerPoint. We already know how to use Word. PowerPoint, it shows for everyone (upon which the moderator sought clarification and asked directly: Do you mean that your work is projected on a big screen for everyone to see?). Yes. If I have many kind of PowerPoint skills, for example colors, making the slideshow animation. to give interesting to them.*

There was also the issue of submitting assignments digitally, which some students were unfamiliar with or lacked the confidence to do so successfully. One student commented (which was met with a series of emphatic nods from the rest of the group):

S2.5: *We didn't use paper (at the Australian university).*

A couple of students also mentioned using the anti-plagiarism checker, Turnitin (turnitin.com) before they submitted assignments.

S1.1: *In Swinburne we studied Turnitin (Turn-it-in). We didn't know the way, so we were like, what is Turnitin? We submit our assignments on Turnitin so I think it's very kind to tell students what is the Turnitin.... (Much later in the FGD, this student noted that it was a "very scary system").*

Digital literacy problem solving

In the literature review, we cited Jarman-Walsh's (2015) suggestion that ICT skills are essential to study abroad students because they often have to work independently to solve personal and academic-related problems. With that in mind, we asked the students during the FGDs how they handled any problems or challenges relating to their digital literacies. Discussions on this topic were rather unproductive. In short, both groups struggled to go into any depth when responding. They did, however, come to the conclusions that they either looked online for a solution to a problem (usually carried out in Japanese) or asked a peer for help.

Digital literacy skills are inferior to classmates

Over 60% of survey respondents believed their colleagues in the Australian university classes had more advanced computer skills. The focus group participants acknowledged that it was because they struggled with tasks like online research and, during group projects, they were able to observe their classmates' familiarity with technology and more-advanced computer skills. For example:

S2.1: *My friend, Vietnamese students, when I have a presentation. And, he said: I do all presentation make PowerPoint. So he make a very good PowerPoint slides. But I can make only slides, some text and pictures. But he is very clearly, but very good PowerPoint.*

S2.3: *When I use Excel I didn't know how to make difficult graph, but Chinese people know this.*

S2.5: *When I was in diploma course I worked a lot with Vietnamese (students) and all Japanese, Japanese, Japanese and we (meaning the Japanese students) didn't know how to use the Word and Excel and she helped (i.e. the Vietnamese student helped).*

There were some, however, who did not observe a significant weakness for the Japanese:

S1.5: *Some guys after graduating the ELICOS program go on to IT, who is having very good skills because of IT, some guys no more or bad. But I think always students same result.*
*Note: (ELICOS = English Language Intensive Courses for Overseas Students)

S1.8: *I believe Japanese students were pretty normal.*

When pressed by the moderator about how one can judge whether a person is more digitally literate, students in the first FGD came to some consensus that it was based on (a) typing speeds, and (b) amount of time spent using a PC (e.g., taking notes on a pc during class).

Digital literacy training pre-embarkation

The questionnaire item asked returnee students whether they would have felt more prepared if they had received formal digital literacy training before travelling to Australia. Just over half (56%) of the survey respondents believed that this would have been useful. Ten out of the 13 FGD participants were in fact supportive of this proposal. When asked what the course ought to teach, some suggestions were:

S2.5: *Typing practice. When I was in language school, I practiced very much. And that's why after I go to Diploma, I could type faster. It helped so much. It saves time.*

S2.2: *I think we need training in how to find the information in English site. In my case I took a lot of time to find the articles from the newspaper in English or somewhere, if I know the site before I going to Melbourne maybe it's more helpful...I used some newspapers to find some articles but its very hard for me to find ...to know which is a good article or which is a bad article. We need training about this.*

S1.1: *In Swinburne we studied Turnitin (Turn-it-in). We didn't know the way, so we were like, what is Turnitin? We submit our assignments on Turnitin so I think it's very kind to tell students what is the Turnitin. (much later S1.1 says, it's a very scary system.)*

One student argued for training because they did not receive any support or training in Australia after they entered the formal degree courses (i.e., after they graduate the preparatory ELICOS program):

S2.2: *We didn't have a chance to be taught PC skills in Japan. (Moderator asks: How about in Australia?) A little bit in the ELICOS program, and in diploma subjects we didn't have any training.*
*Note: (ELICOS = English Language Intensive Courses for Overseas Students)

Interestingly, the first FGD group revealed that those students who took an optional Microsoft Office Specialist (MOS) accreditation test (recommended by their statistics professor as a means of earning extra credit) during their first year benefitted from that knowledge and skills while studying in Australia.

S2.1: *We should be required to take the MOS exams because people can get basic knowledge (comment is followed by a strong level of agreement from the rest of the group, for example, head nodding).*

S1.8: *MOS definitely helps.*

S2.5: *When I was taking Statistics class, I got the MOS certificate so I could use the ability. I took the tests for Word, Excel and PPT (nodding agreement from the group). So I could use the applications (while studying in Australia).*

One Student (S1.1) also credited the statistics class (mentioned in comment above) with helping to develop her digital skills before going to Australia. She also expressed her disagreement with a change in the curriculum; instead of including an introduction to statistics course, where students used Microsoft Office applications (i.e., Word, PowerPoint, and Excel) to manage classroom tasks and a small research project, the course was instead substituted for a preparatory course which focused on a Japanese job recruitment aptitude test (SPI). Another student then reflected:

S1.5: *When I have a homework or presentation in Swinburne I can do my homework effectively, because of... I had Kobayashi-sensei (The statistics teacher) class and learn a lot of stuff, actually It's very very useful*

Upon hearing about this change in the DTH curriculum, the first FGD group voiced their concerns not only because of the benefits they felt they gained in digital skills, but also because the accreditations and experience they gained would help them in their professional lives. When this change to the curriculum was shared with the second FGD, all participants objected. For

example:

S2.2: *First grade doesn't need SPI. But in 3rd grade we need SPI. 1st grade only need basic skills.*

The FGDs suggest that students require focused training and more opportunities to develop their digital literacies before embarking on their study abroad in Australia. Moreover, students noted that they are seeking to develop their digital literacies while they are at university. They recognize that digital literacies are important for their careers in the future. For example:

S2.1: *When we start the work in the future many people think we can use the PC, so basic skills, many people recognize us have basic skills with PC.*

S1.5: *Actually now, almost all companies using computer and Internet. Computer skills. The businessman is almost always using computer. So we have to learn before we get a job, before we get a job to use a computer well. In business, every businessman sending a mail, making a PowerPoint for conference or something.*

Given the positive feedback received from the FGD groups, requiring students to take MOS accreditation tests or alternatively, a Google Suite Certification may be a worthwhile decision. Moreover, some students reflected that they were able to learn a lot when they used computers in the university classes prior to departing to Australia. For instance:

S1.2: *I think I used the Word in Travis' (English) class, I think it's enough skill for me...and I learned Excel from Kobayashi-sensei (statistics class).*

S1.1: *Actually we all learned computer skills from Kobayashi-sensei (statistics class)...I think 1st year should give more opportunity (to use PPT).*

There needs to be a more unified commitment from CTHM to give students opportunities to exercise their digital literacies in class. The FGD revealed that in only two classes did students report being required to use their computer regularly. In particular, the FGD pointed at the importance of group work and giving presentations when they are studying in Australia, hence providing these opportunities to develop these skills ought to be prioritized.

Discussion

Our study set out to establish whether or not students experienced any challenges related to digital literacies or tools during their one-year study abroad in Australia. We were able to confirm from this returnee group, and from the 2015 cohort, that students' digital literacies were challenged during their Australian sojourn. For some, it was to the detriment of their language learning and academic performance. We were able to affirm from this 2016 returnee group that, while in Australia, they were required to utilize their digital literacies in the classroom significantly more than in Japan. It was surprising to hear how infrequently students were obligated to use their computers or exercise digital literacies in the Japanese university. This scarce opportunity in the Japanese university context, coupled with incoming students' lack of digital literacies and experience using technology for academic purposes (Cote & Milliner, 2017), foreshadow a sense of being unprepared for university education in Australia. Moreover,

once immersed in the Australian classroom, students quickly concluded that their own digital literacies were inferior to those of their classmates. Comparing the comments between the 2015 and 2016 returnee cohorts, these sentiments and perceptions have persisted and become stronger.

These findings corroborate other studies conducted in Japan (e.g., Gobel & Kano, 2014; Lockley & Promnitz-Hayashi, 2012; Lockley, 2011; Murray & Blyth, 2011) that found that students have limited experience using their digital literacies in academic contexts, and they lack confidence using digital tools. We were able to extract from our group of returnees that some form of digital literacies training would be appreciated and valuable. Among other things, any pre-embarkation digital literacies "course" should provide students with experience using core productivity applications (e.g., Word, Excel, and PowerPoint). We learned that students would also benefit from training on how to search for, navigate and read English websites; what many would call *information literacy*. A good starting point for building information literacy would be teaching students how to strategically search for information online. Godwin-Jones (2015) highlighted, "learning effective internet searching is fundamental for online resources" (p.13), as most students do not know how to use advanced search options and most tend to only consult a single source for information (e.g., Wikipedia or Google). Assigned tasks in English classes ought to expose students to a variety of English websites and require students to synthesize the information provided on these sites to present some form of research product. It may also be valuable for students to see how an assignment or report is presented to students in Australia. Then, students can practice (a) interpreting the assignment questions and submission guidelines (e.g., how to properly format a paper in a Word document), and (b) writing the assignment or preparing for the presentation, and (c) how to self-evaluate their draft (e.g., utilizing Turnitin).

Another task which can both prepare students for studying abroad and promote digital literacies is asking students curate their own website or learning log that details their experiences leading up to embarkation. Students could use the platform to reflect upon their learning both inside and outside the classroom; practice writing for readers outside the university community, and indirectly develop a range of digital skills. Deciding which literacies are important is a fast moving target, but by giving students a blank canvas to work on, they can develop a range of new skills as they seek to create new content. For example, students could use smartphones to create multimodal mash-ups, such as annotating images, remixing web video, and building virtual tours of the study abroad destination. Moreover, by requiring students to be "owners" of their website, lessons about the importance of plagiarism and Creative Commons licensing can take on new meaning. Taking these points into consideration, the creation of personal websites or public, online learning logs would be useful for preparing students for studying abroad, and, as Godwin-Jones (2015, p. 16) notes, "there is something to be said for the benefits of being technically literate enough to maintain a website of one's own." If our proposal to create a formal digital training class is rejected by the Department of Tourism, the above suggestions could be incorporated into future English classes or other tourism-focused content classes. The focus group discussions unearthed the perceived value of the MOS accreditation, and the teacher of that aforementioned statistics course was contacted to relay the opinion that the accreditation process helped prepare the students for challenges to their digital literacies. We also learned that for our students, the MOS accreditation is a very attractive addition to their resume as it quantifies their digital literacies when they begin job hunting (a process that commences immediately after students return from Australia). With these benefits in mind, we have urged this statistics teacher to either (a) make the MOS accreditation a course requirement, or (b) urge more students to take the MOS accreditation by increasing the grade reward(s).

Limitations

This research focuses on a very specific group of Japanese university students. The findings may be applied to students studying at other Japanese universities, but as the OECD (2015) study indicates, digital literacies vary across countries.

Nevertheless, the insights into the study abroad experience, and more pointedly, which digital literacies are essential, ought to be applicable to educators tasked with pre-embarkation training for students planning to study abroad. While our study has been able to survey two consecutive returnee groups, the findings will change if student's digital literacies become more developed. That is to say if the aforementioned Japanese government mandate for all high school students to take ICT training takes root, and ICT components permeate the high school curriculum on a broader scale, first-year students will most definitely enter the tourism program with more sophisticated digital literacies.

Conclusion

To more effectively prepare their Japanese university students for a study-abroad program, the researchers looked at digital literacies and how they impact upon experiences studying abroad in Australia. This four-stage investigation has identified that freshmen students at their Japanese university need to develop digital skills covering a broad range of areas. Awareness of Internet literacy and manipulation of basic productivity applications (e.g., word processing, spreadsheet creation, cloud computing, and presentation software) is rather ingenuous. In addition to basic training, the DTHM has to create more practical opportunities for students to apply their digital skills.

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