

Beyond the language classroom: A case of Japanese EFL students' engagement with ICT

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Abstract

Despite the intentional formal learning in the classrooms, research shows that much of language learning happens in the absence of conventional classrooms with the learners' independent use of technologies. However, since how students use technologies beyond the classroom is neither easily observable nor assessable, this issue has received little attention. Consequently, this case study tried to gain a holistic understanding of how Japanese undergraduate EFL students engage with ICT beyond the classroom in their everyday life in the first language (i.e. Japanese), in the target language (i.e. English), and for learning the target language. The data was collected through an online questionnaire that gained information about the students' use of ICT in everyday life in Japanese and English, their use of discipline-specific technology for language learning, their attitudes toward the use of technology, their challenges with technology, and their future needs. Findings indicated that the students tend to use emerging communication technologies frequently in everyday life in Japanese and that this usage mainly includes peer-to-peer technologies rather than collaborative ones. Moreover, very little use of ICT in the target language is shown. In terms of discipline-specific technologies, some barriers are found that prevent students from using them. The students' main challenge with the use of technology for language learning is the lack of knowledge about the available technology, and they emphasized their need for expert support. The detailed patterns of the students' use of ICT in L1 and L2 can be a guideline for the proper implementation of ICT into L2 education.

Keywords: Informal learning, mobile learning, language learning, digital technology, discipline-specific technology

Introduction

The recent technology-enhanced language learning literature is excessively filled with studies conducted within actual or online language classrooms using various learning technologies that are normally referred to as formal learning (Maloney, 2019;

Lai, 2019; Rosell-Aguilar, 2018). Despite this intentional formal learning which is provided by educational institutions with identified objectives (Lai, 2019; Stevens & Shield, 2010), research shows that much of language learning can happen in the absence of the conventional classrooms with the learners' autonomous use of technologies (Benson, 2011; Lai, Zhu, & Gong 2014; Lai, Hu, & Lyu, 2018; Lai, 2019). However, since it is not easy to observe and assess students' use of technology beyond the classroom (Benson & Reinders, 2011; Stevens & Shield, 2010), the related literature lacks sufficient investigations in this area (Lai, 2019; Maloney, 2019; Reinders & Benson, 2017; Trinder, 2016).

Computer-assisted language learning (CALL) literature requires further studies to shed light on the conditions and circumstances that control students' technology-based out-of-class language learning (OCLL) in different regional contexts, especially Asian countries (Steel & Levy, 2013; Thomas, 2017). A review of the literature on technology-based language learning indicated that Asian countries have the largest number of studies related to MALL (mobile-assisted language learning) inside the classrooms, (Elaish et al., 2017), but there is no sufficient record of Asian students' independent use of technology beyond the classrooms (Mynard, 2019; Thomas, 2017). One of these technologically advanced Asian countries in which research mainly focuses on language learning inside rather than outside the classroom is Japan (Mynard, 2019). Researchers emphasize the need for understanding more about how Japanese language learners engage with technology-based language learning activities beyond the borders of the actual classroom (Mynard, 2019; Thomas, 2017). Consequently, the present study attempts to address the existing gap, and provide a holistic understanding of how Japanese EFL (English as a foreign language) learners of the 'net generation' (Oblinger & Oblinger, 2005) experience and engage with technology, a) in their everyday life in the first language (i.e. Japanese), b) in their everyday life in the target language (i.e. English), c) and more importantly for learning the target language. This study decided on the investigation of these three areas because of, a) how the students apply technology in their everyday life strongly influences their use of technology for other purposes (Levy & Stockwell, 2006; Lockley, 2013; Steel & Levy, 2013; Trinder, 2016), b) according to Jarvis (2009), online learning consists of "e-acquisition: unconscious learning in an electronic environment", and "e-learning: conscious learning in an electronic environment" (p. 416). In this study, the students' use of technology in everyday life English reflects e-acquisition, and learning English reflects e-learning.

To date, there have been some comprehensive projects on the students' independent use of information and communication technology (ICT) for language learning across Europe and the U.S. (Conole, 2008; Jurkovič, 2019; Maloney, 2019; Peters et al., 2009; Steel & Levy, 2013; Stevens & Shield, 2010; Trinder, 2016). These projects and how their objectives relate to the setting of the present study are explained in the following section. They are the points of reference for the present study, and wherever possible the results of this study are compared and contrasted with their findings to see how the patterns and trends of ICT usage have changed over the years, and how they differ among countries.

Moreover, the data for the present study was collected through a survey partially drawing on the questionnaires used in the above-mentioned studies.

Related studies

This section provides a review of the six related studies taken as models for this paper (Conole, 2008; Maloney, 2019; Peters et al., 2009; Steel & Levy, 2013; Stevens & Shield, 2010; Trinder, 2016). The data collection of these studies took place between 2006 and 2019, starting with the emergence of Web 2.0 technologies. Even though the studies are different in terms of country, language, and types of technologies, they all share a common belief about the potentials of ICT to fulfil independent language learning needs and to reach the state of *normalization*. Warschauer and Healey (1998) introduced three phases for CALL, in which the 21-century CALL which is the final stage, was referred to as *Integrative CALL*. However, Bax (2003), reformed the definition for the final phase and restated that the end goal for CALL in the final stage is to reach normalisation. He believes that “normalisation is, therefore, the stage when technology is invisible, hardly even recognised as a technology, taken for granted in everyday life” (p. 23). Accordingly, with regards to the framework of normalisation, a simultaneous review of the findings of the above-mentioned studies is conducted to provide an all-inclusive view of the use of ICT for language learning across different regions in different periods and the changes over years. All these studies were survey-based and they focused on several common technologies that make them complementary to each other.

Conole et al. (2008) conducted a comprehensive study on the students’ experiences with technologies in the UK. The students were from different disciplines, and the findings illustrated several commonalities and differences across disciplines. Conole (2008) also presented the findings of two in-depth case studies of language and linguistics students. The case studies were from Turkey and China, and the results of the surveys and audio logs revealed the students’ use of specific tools for specific tasks, which varied depending on cultural differences. For instance, though it was common to discuss issues with tutors through emails in the UK, this was mostly done face-to-face in China and Turkey. Students used a variety of technologies, including both traditional (e.g. phone, emails) and emerging technologies (e.g. Skype, MSN chat). Finally, despite cultural differences, the overall findings showed the changing trend of the students’ learning styles toward the integration of new technological tools with traditional ones.

Another parallel study was conducted in 2006 by Peters et al. (2009) in Canada. Seventy-one French language learners across five Canadian universities participated in the study. The survey collected data on how frequent students did 25 technological activities in French, their technological activity preferences, and their perceptions of the activities’ usefulness. The findings revealed that the occurrence of the activities varied in different universities, which was assumed to be associated with the different organisational structure of the universities. However, students’ preferences were not

affected by their universities. The four most-liked activities by the students were listening to music, viewing video files, consulting online dictionaries and grammars, and e-mailing and chatting in French. Although the students' perceptions of the activities' usefulness slightly varied across universities, the first five activities ranked as useful were, consulting online dictionaries and grammar, online grammar exercises, chatting in French, vocabulary exercises, and online quizzes. Moreover, it was indicated that there was a direct positive correlation between the preference for activity and its usefulness.

Later, between 2008 and 2009, the Education and Culture Executive Agency (EACEA) carried out a comprehensive project entitled "Study on the Impact of ICT and New Media on Language Learning" (Stevens & Shield, 2010). An online survey of approximately 230 questions was designed to find the participants' use of ICT in everyday life and their behaviours and attitudes toward the use of ICT for language learning. It was revealed that the participants intended to use technologies in everyday life for, a) socialising and keeping in touch, b) working (at workplace/home), c) following news and keeping updated on current affairs, and d) checking facts (e.g. spelling/dates/names/timetables). The results of the use of ICT for language learning indicated that online dictionaries and grammars, informational websites, films on DVD (with or without subtitles) were used by more than 80% of the participants, followed by emails and music on digital media (by around 70%). Therefore, it was concluded that technological innovations and the new media were changing much faster than pedagogical practices, and the participants intended to use traditional technologies for language learning rather than emerging technologies.

Steel and Levy (2013) surveyed 587 foreign language students at an Australian university to explore learners' use of technologies inside and outside of the classroom, learners' technology preferences, and the top three beneficial technologies for language learning from the learners' perspectives. In their study, a large number of technologies were used outside rather than inside the classroom. The students selected online dictionaries and translators, YouTube, and social networking sites as the top three useful language learning technologies. Steel and Levy (2013) concluded that the students' intention for using their self-selected non-institutional technologies reflected a growing trend toward the independent use of technologies and learner autonomy.

Trinder (2016) conducted survey-based research with 175 Austrian university students in 2013 to identify the students' choices of particular technological tools in their first language (L1) and English (L2), and the students' perceptions of the potential of the tools for learning. In terms of communication technologies, the results indicated that they were most popular in L1 rather than L2. Texting, emailing, and social networking were the top three communication activities in L1, and social media was the most used technology in L2. In terms of input/content technologies, information websites were vastly used both in L1 and L2, and viewing downloaded/streamed films and video clips were the second most frequent activity in L2. Among the discipline-specific tools, in line with the previous studies, online dictionaries were the major language learning tool. Lastly, regarding the students' perceptions of the usefulness of the tools, it was figured

out that learners perceived input/content technologies as having high potentials for language learning.

Maloney (2019) conducted a study with 600 American Spanish L2 students. The study investigated students' use of technology in L2 outside of the formal learning context, and its relationship with other variables such as proficiency. The survey gained information about the technology used in L2 for language learning (e.g., dictionaries), and technology for entertainment (e.g., social media). The technologies were divided into two categories of discipline-specific technologies for language learning, and communication and input/content technologies for entertainment. The findings indicated that students used discipline-specific technologies more often than the other category. A positive relationship was found between proficiency and input/content technologies.

The above-mentioned projects provided different snapshots of the use of technology across Europe and the U.S. at different points of time. The overall comparison of the findings resemble the growing trend of the independent use of technology in L1 and L2; however, usage of the technology has not been able to keep pace with technological transformations, especially in terms of discipline-specific technologies since only online dictionaries have been the top most used technology for language learning from 2006 to 2019. It can be inferred from the findings that some technologies such as technologies used for texting are approaching the stage of normalisation in L1, but the low frequency of the usage of online dictionaries as the main language learning technology in L2 warns us how far the final stage of CALL from its final goal is. The findings also show that although the studies used quite identical surveys obtaining information on the use of similar technologies, diversity in their findings shows how context-specific the use of technology can be, and it shows the importance of investigating the use of technology for language learning in other contexts.

In line with the lack of information about the nature of students' technology-based OCLL (Lai et al., 2017; Lai, 2019, Maloney, 2019; Reinders & Benson, 2017; Trinder, 2016), it is believed that Japan is not an exception. Even though Japan is ranked as the second world ICT sector in the Organisation for Economic Cooperation and Development (OECD, 2015), and is considered as one of the major counterparts of the EU, there is not enough research on Japanese EFL students' actual use of ICT for both everyday life and language learning compared with other countries (Mynard, 2019; Thomas, 2017). In 2008, the OECD and the Japanese Ministry of Education, Culture, Sports, Sciences, and Technology (MEXT) held a seminar focusing on "Globalisation and Linguistic Competencies: Responding to diversity in language environments". The report chiefly highlighted the importance of technology-enhanced informal language learning in Japan, while it did not provide any evidence or specific trends of the use of ICT. Later, Lockley (2013) investigated Japanese undergraduate students' ICT competence through surveying 71 students about their experiences with ICT. The survey data identified that 'looking up vocabulary', 'checking something they were not sure about online' and 'communicating with foreign people on sites like Facebook, Twitter or Skype' were the three top activities for learning English using mobile phones. Mynard (2019) states that due to the importance of language learning beyond the classroom, Japanese institutions are currently

investing in providing self-access language learning opportunities beyond the classroom, for which knowing the students' previous engagement with technology beyond the classroom is of crucial importance. Therefore, this study aims to bridge the existing gaps found in previous studies through the following questions:

1. What technologies do Japanese learners use in everyday life (in Japanese and English), and specifically for English language learning beyond the classroom? And how often?
2. What technologies do the learners perceive as useful for language learning?
3. How do the patterns relate to Japanese students' everyday use of ICT compared to the patterns related to their use of ICT for English language learning?

Methodology

Participants

This study was conducted at Tohoku University, one of the largest national Japanese universities with a reputation for high-quality ICT resources as well as well-equipped CALL classrooms. About 400 Japanese EFL undergraduate students were asked to take part in the study, 248 students of which agreed to take part in the research. The participants were students of the general English classes and belonged to different faculties including Arts and Letters (N=6), Education (N=2), Law (N=83), Economics (N=6), Science (N=92), Pharmaceutical Sciences (N=2), Engineering (N=36), and Agriculture (N=21). The students' age ranged from 18 to 25 (M=18.75, SD=.92), 185 of whom were male (74.5%), and 63 of whom were female (25.4%). All the participants signed an informed consent form at the beginning of the semester, which explained the aim and procedure of the study.

Instrument and analysis

The data for this study was principally collected using an online questionnaire including not only closed questions but also some open-ended questions to supplement the quantitative data. Prior to the development of the survey questionnaire, a review of existing questionnaires in the previous studies was undertaken. Each questionnaire in itself fell short of fully meeting the research intentions, therefore, while drawing on the previous surveys, especially Stevens and Shield (2010) and Trinder (2016), a new questionnaire was designed to best fit the context of the present study. Before designing the survey, a focus group (discussion) was conducted with some Japanese undergraduate students to find adequate information about their daily use of technology, their attempts to practice English using technology, and their general attitude toward the learning technologies. After the questionnaire was designed, it was piloted with 16 volunteer students. Finally, there were some minor changes in the technology examples and the

wording of some questions. In addition to the demographic information (i.e. gender, age, faculty, level of English language proficiency), the final questionnaire consisted of five major sections as below. The questionnaire can be found at <https://cutt.ly/DrX48FN>.

- *Technologies used in everyday life in Japanese*

Considering the wide range of technologies in the previous surveys and the piloting stage of the questionnaire, a list of 17 ICTs categorized into two groups (information technologies & communication technologies) was provided.

- *Technologies used for language learning beyond the classroom*

This section had two subsections. First, students were given the same list of 17 ICTs, but this time they were asked about their frequency of use in English only, not Japanese. Since the types of some technologies differed in Japanese and English, the list slightly differed with the previous list in terms of the examples, such as NHK as Japanese news websites and BBC as English. Second, a list of 17 discipline-specific technologies (particular technologies for language learning) was proposed. Moreover, some other questions requesting general information about the technological device, location, and amount of time spent on OCLL were asked at the beginning.

- *Students' attitudes toward the use of technology for OCLL*

Attitudes' questionnaire developed by Stevens and Shield (2010) including 17 questions was used for this section.

- *Challenges and barriers of using technology for OCLL*

Through an open-ended question and eight statements extracted from the focus group discussion.

- *Students' language learning needs and expectations*

Through an open-ended question and a multiple-choice question asking about the language learning skills.

Due to the space limitation and the main concern of the study, the last three sections of the questionnaire are explained briefly. To analyze the results of the questions, the survey descriptive research method was used. The survey was conducted using online *Google Forms*, which generated the results in MS-Excel files. MS-Excel was used for calculating the descriptive statistics of the data using frequency distributions and graph presentations. The answers to the open-ended questions were also analysed using content analysis through coding for the theme, finding patterns, and drawing conclusions.

Findings

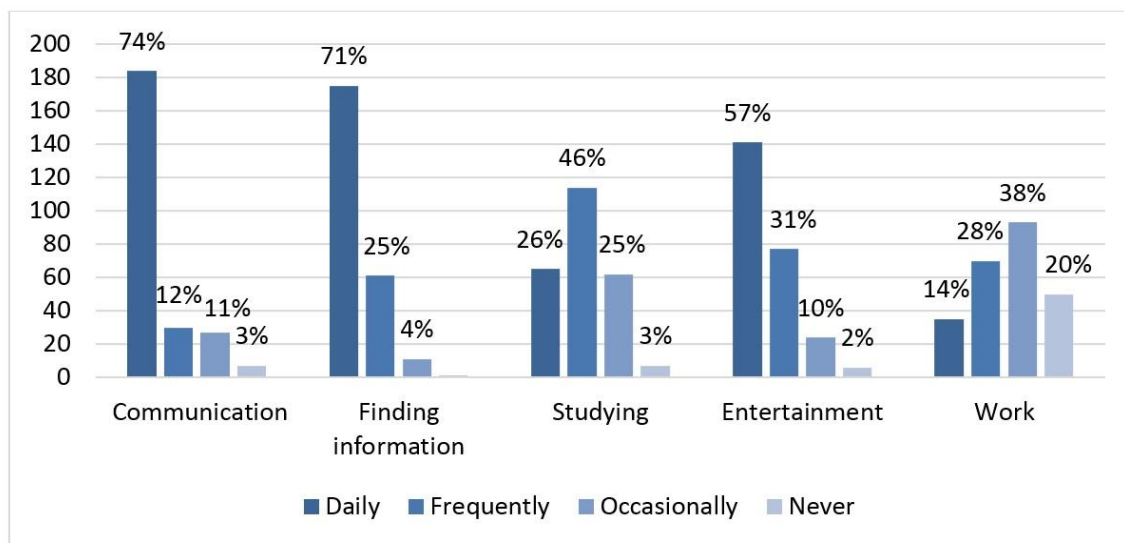
Following the sections of the questionnaire, findings are presented in five sections.

Technologies used in everyday life in Japanese (L1)

At the beginning of each section of the questionnaire, some primary questions were asked to provide a general understanding of the students' use of ICT. In this section, firstly the students were asked to identify their major purposes of using ICT as well as the frequency of their usage in L1. As indicated in Figure 1, a large number of the students (more than 85%) used ICT daily and frequently for communication and finding information. This result is also in line with the findings of Conole (2008) and Stevens and Shield (2010) in which the most frequent activities with technology were communication and finding information. Even though the daily usage of ICT for studying is not as much as for other purposes, more than 70% of the students used ICT daily and frequently for studying. The results also showed a large use of ICT for entertainment (88%).

Figure 1

Purpose and frequency of using ICT in L1

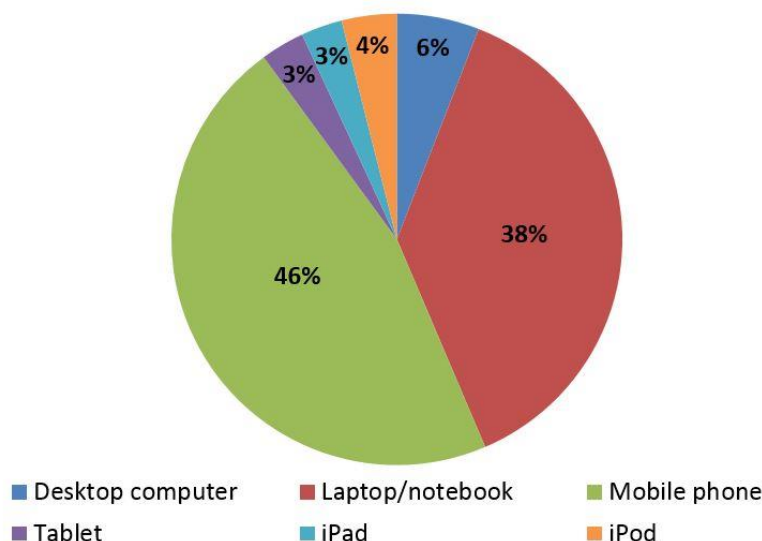


The second question asked the students to identify the types of devices they mostly used in their daily lives (Figure 2). Stevens and Shield (2010) predicted that the use of technological devices is moving toward the use of mobile devices. As indicated in Figure 2, the students highly used two types of mobile devices: mobile phones and laptop/notebook computers. This result concurs closely with previous studies that indicated Japanese students' extensive use of mobile phones in everyday life, although for purposes other than education (Lockley & Promnitz-Hayashi, 2012; Takahashi, 2011).

What is important here and needs further investigation is that there must be some barriers preventing the students from using iPads, iPods, and tablets which are also mobile devices.

Figure 2

The frequency of using different technological devices



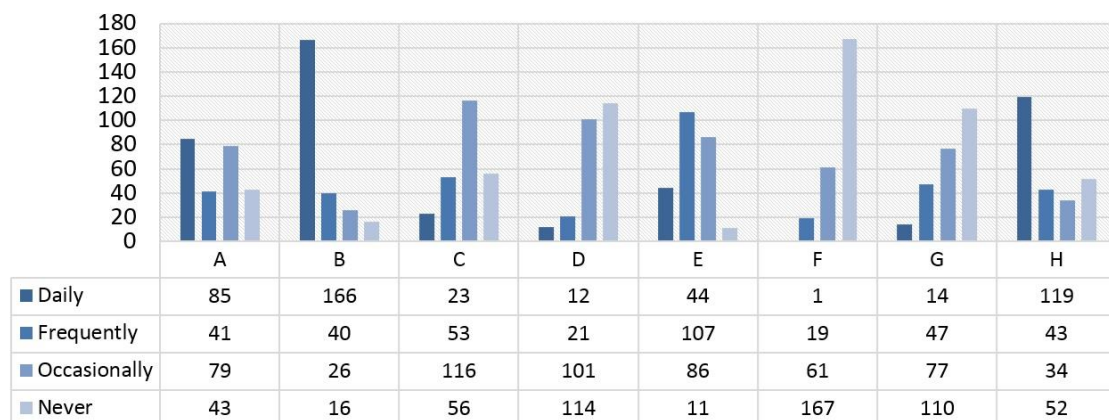
Following the two general questions, the main section of the questionnaire asked about the frequency of using 17 ICTs in everyday life in Japanese. To compare the findings with the previous studies, the results are also presented based on the same categorization by Trinder (2016) and Maloney (2019) that divided technologies into communication and information technologies. As indicated in Figure 3, the most highly used communication technology in everyday life was written chat. Around 83% of the students used written chat daily or frequently in Japanese. The other technologies used by more than 50% of the students were social networking sites (64%), emails (60%) and text messaging (51%). However, in Trinder (2016), text messaging/SMS (95%), emails (90%), and social networking sites (84%) were the top three technologies used by the participants, and written chat (68%) was ranked as the fourth used technology.

On the other hand, findings showed that about 67% of the students never used discussion boards/forums, and surprisingly, about 21% mentioned they do not know what discussion boards are. About 45% of the students never used blogs and wikis and 4% did not know blogs and wikis. This indicates that the students prefer the use of peer-to-peer communication technologies (i.e. technologies that put two individuals in direct contact with each other) in their everyday life rather than collaborative technologies.

As shown in Figure 4, information websites (83%) and videos on the web/apps (76%) were the most highly used information technologies (daily or frequently) in Japanese. The other two technologies used by more than 50% of the students daily or

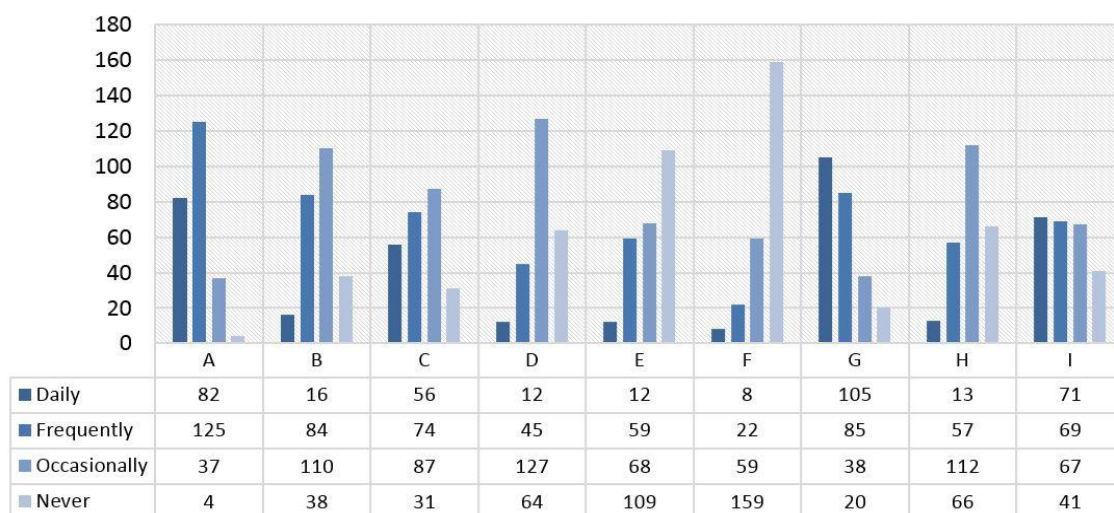
frequently were listening to audios (56%) and checking news websites/apps (52%). In Trinder (2016), it was shown that about 85% of the participants used information websites, but less than 50% of the participants used videos daily or frequently in their L1, and instead, they used them more in L2. On the other hand, about 64% of the students never used Japanese e-books which is similar to Trinder (67%).

Figure 3
Communication technologies used in Japanese



A: Text messaging/SMS, **B:** Written chat, **C:** Voice chat, **D:** Video chat, **E:** Emails, **F:** Discussion boards, **G:** Blogs and wikis, **H:** Social networking sites

Figure 4
Information technologies used in Japanese



A: Informational websites, **B:** Company websites/ apps, **C:** News websites or apps, **D:** Online academic journals, **E:** MOOCs, **F:** Japanese E-books, **G:** Videos on the web/apps, **H:** Movies on CD, DVD/Blu-ray, **I:** Listening to audios

Technologies used for out-of-class language learning (OCLL) in L2

At the beginning of this section, the students were asked three general questions about their OCLL. Firstly, the students identified the time they spent on OCLL. Figure 5 illustrates that almost 50% of the students spend less than two hours per week learning English beyond the classroom. In 2013, Fukuda and Yoshida found that Japanese students are not motivated enough to expand their OCLL time which ranges only between zero to an hour a week. The current findings also indicate that the students are not yet making serious efforts for OCLL, although the rapid technological advancements enable easy access to several useful learning technologies. Students' reluctance for OCLL is one of the crucial issues that need more in-depth investigation in different contexts. This reluctance might be related to technical and psychological aspects of using technology independently, for which teachers can find ways to boost students' OCLL (Fathali & Okada, 2018).

The second question investigated the students' preferred technological devices for OCLL. As shown in Figure 6, in line with everyday use of devices in Japanese, the students frequently used mobile devices, such as mobile phones and laptop computers for OCLL. However, they rarely used other mobile devices including, tablets, iPads, and iPods. This finding is in contrast with the study by Lai and Zheng (2018), in which a large number of the students preferred using laptops/desktop computers for studying and using mobile phones for less serious tasks in everyday life. In a report by OECD (2015), it was also found that in Japan students used computers to do their homework outside of school less than other countries. Therefore, the findings of this study also reveal that the trend of the students' preference for the device is moving toward the extensive use of mobile devices for both serious tasks (such as studying) and less (non-) serious tasks (such as every day chatting with a friend).

In the third question, the students indicated where they mostly studied English beyond the classroom using ICT. Figure 7 shows that more than 50% of the students studied English at home or in the dormitory. Considering the high percentage of using mobile devices in everyday life and for OCLL, it was expected that a larger number of students would practice OCLL while they are away from home. Accordingly, it can be inferred that the students do not take enough advantages of the mobility feature of the devices.

Figure 5
Time spent for OCLL

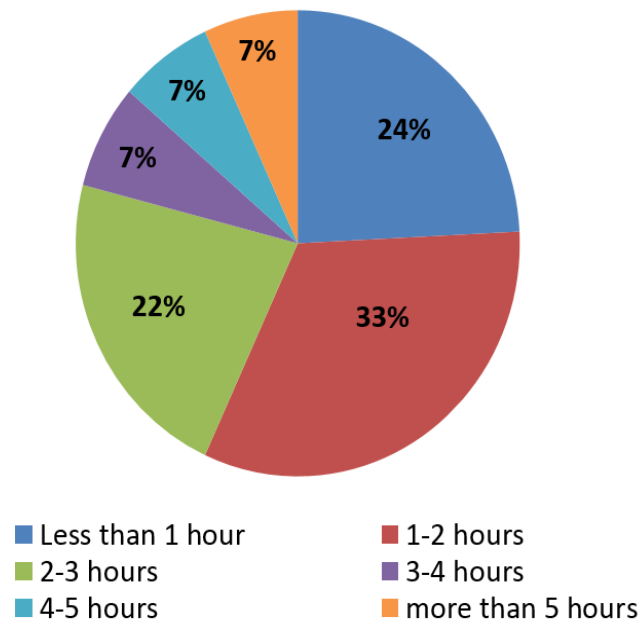


Figure 6
Use of technological devices for OCLL

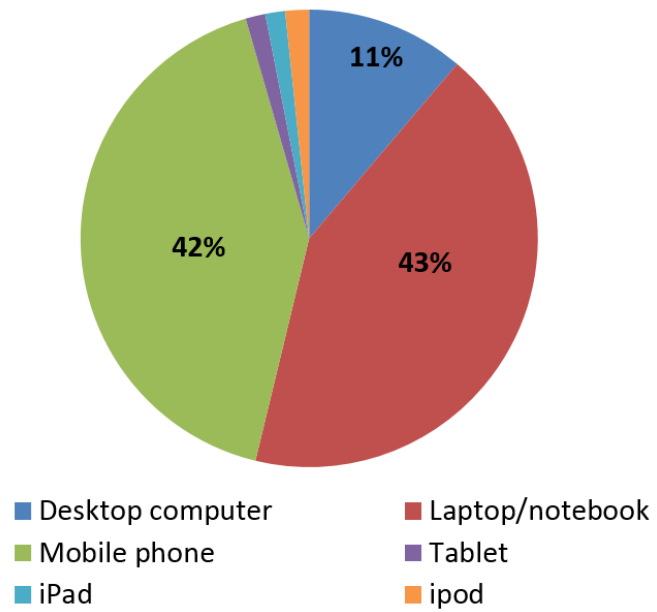
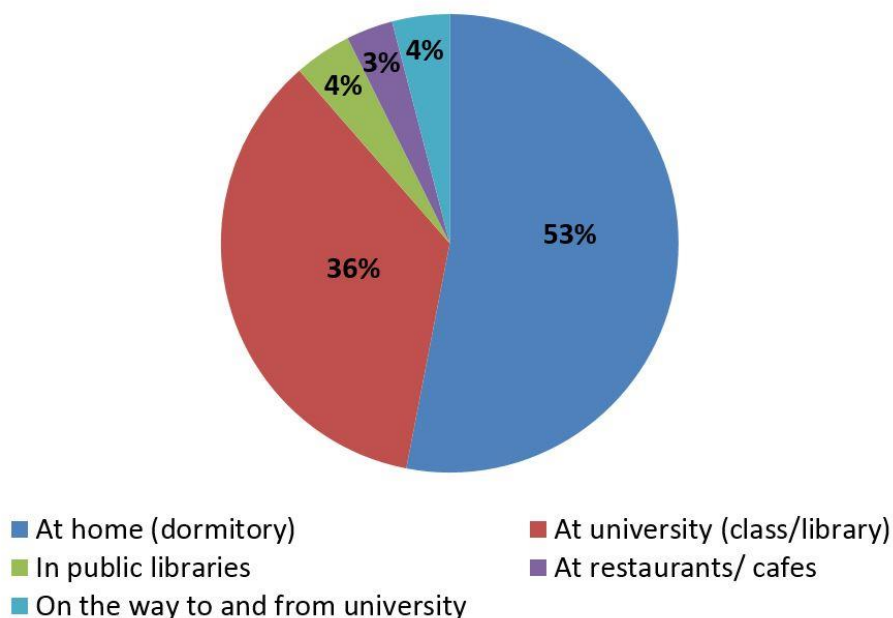


Figure 7
Preferred places for OCLL



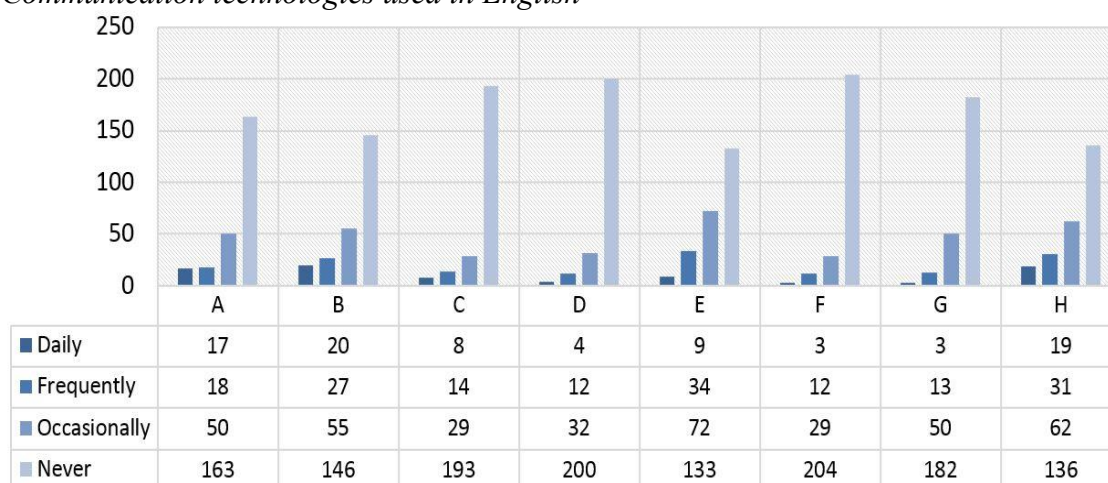
Following the primary general questions, the students' use of ICT in English was investigated in detail in two individual sections. First, the students were asked to identify their use of ICT on a list of 17 ICTs very similar to the one provided in the previous section, but this time about their use in L2. Second, the students identified their use of 17 discipline-specific ICTs for English language learning. In addition, in this section, the students indicated their perception of the usefulness of each discipline-specific technology for OCLL.

Surprisingly, the results of this section indicated that the students use ICT very little in English. As shown in Figure 8, the most highly used communication technology (daily or frequently) was social networking sites indicated by only about 20% of the students. Through the open-ended question, it was revealed that the students mainly used social networking sites to read each other's posts rather than posting anything themselves, since they felt uncomfortable making mistakes in the virtual world. Even though social networking sites have the potentials of improving both productive skills, such as writing, and receptive skills, such as reading (Kabilan et al., 2010), the students only used them for the receptive skill of reading. In a study on Japanese students' perception of the usefulness of Facebook for language learning, Abraham et al. (2018) found that the students agreed with the positive effect of Facebook on their language learning. Around 20% pointed out the usefulness of Facebook for vocabulary acquisition, reading, and writing skills, 30% for communication skills, and contrary to the findings of the present study 32% believed Facebook could improve their confidence (Abraham et al., 2018). The results of this study are also different from the findings of previous studies in European

countries. In Steel and Levy (2013) and Trinder (2016), more than 50% of the participants used social networking sites daily or frequently in L2. Moreover, previous studies indicated that emails were among the most highly used technologies in L2 (Peters et al., 2009; Stevens & Shield, 2010, Trinder, 2016), whereas only 17% of the Japanese participants of this study communicated through emails in English daily or frequently. Even though the students frequently used social networking sites and emails in their first language, they used them much less in the target language.

On the other hand, a large number of students never used communication technologies in English. The least frequently used technologies were discussion boards/forums, video chat, voice chat, and blogs, and wikis, which is in line with the students' little use of these technologies in Japanese. Moreover, this finding indicates the students' unwillingness to use technology to improve their productive skills in the target language.

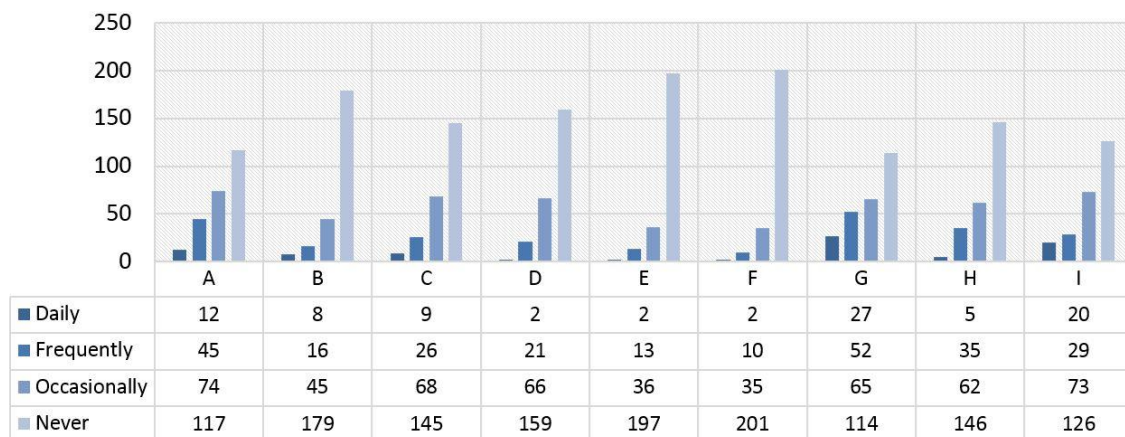
Figure 8
Communication technologies used in English



A: Text messaging/SMS, **B:** Written chat, **C:** Voice chat, **D:** Video chat, **E:** Emails, **F:** Discussion boards, **G:** Blogs and wikis, **H:** Social networking sites

Unlike communication technologies that are mainly associated with productive skills, information technologies help improve receptive skills, and as shown in Figure 9, the students showed a little more willingness to use information technologies than communication technologies. The top three daily or frequently performed activities in English were watching videos on the web/apps (32%), searching for information websites (23%), and listening to audios (20%). The findings of the students' use of ICT in everyday life also showed similar activities with technology, though more frequently. Therefore, the students' use of ICT in the target language is in line with their use of ICT in everyday life. Comparing the findings with the previous studies (Peters et al., 2009; Stevens & Shield, 2010; Trinder, 2016), similar technologies were used in L2, but with higher percentages (more than 70%).

Figure 9
Information technologies used in English



A: Informational websites, **B:** Company websites/apps, **C:** News websites/apps, **D:** Online academic journals, **E:** MOOCs, **F:** English E-books, **G:** Videos on the web/apps, **H:** Movies on CD, DVD/Blu-ray, **I:** Listening to audios

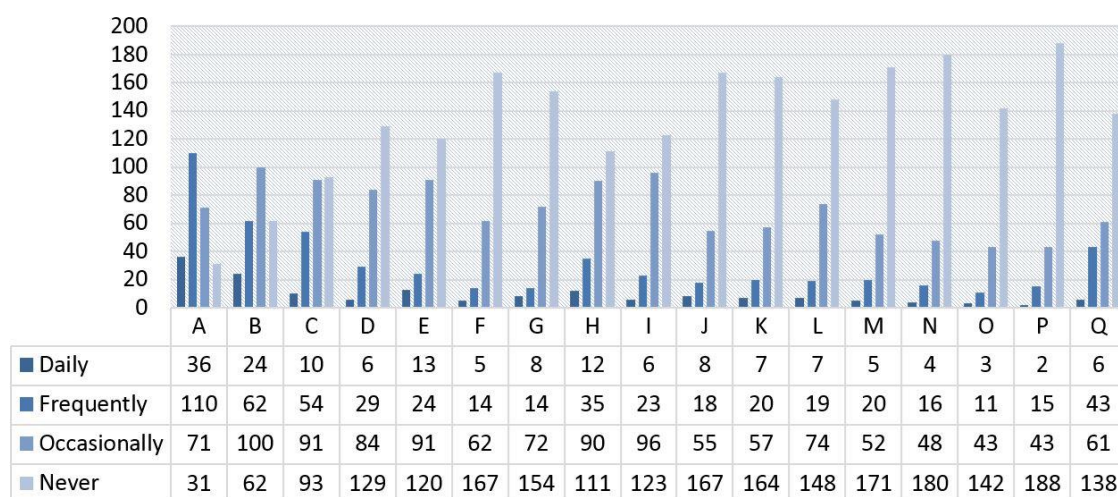
Based on the findings in Figure 10, although the students did not use discipline-specific technologies frequently, the top three most highly used technologies (daily or frequently) were online dictionaries/ dictionary apps (59%), online translators/apps (35%), and vocabulary exercises (26%). One reason behind this finding might be related to the dominant English language teaching method in Japan which is 訳読, Yakudoku (i.e. translational reading).

Yakudoku, the traditional Japanese method of teaching and learning English through translation, which has been wrongly identified with the GTM, on the other hand, came from the old tradition of expounding Chinese passages and later Dutch and English passages in Japanese and can be more appropriately explained as a mixture of construing, parsing, interpretation and translation. (Saito, 2012, p. 30)

This method has always been the popular method of teaching English in Japan (Saito, 2019), so the students also tend to follow the old method with the new tools. Japanese students are mostly used to memorizing long lists of words and using bilingual dictionaries for the Japanese equivalents. The students' extensive use of tools that represent Yakudoku indicates that the emerging technology has not been able to enhance and improve the students' language learning method, and it is just the old wine in a new bottle.

It can be understood from Figure 10 that technologies that need teachers' training in advance (e.g. e-portfolios, online courses, etc.) are used much less than other technologies. Perhaps it can be claimed that since English classes have been mainly teacher-centred in Japan (Saito, 2019), Japanese students are not used to taking the initiative for their language learning beyond the classroom. Compared to the previous studies, it was found that in Conole (2008) the students did not use discipline-specific technologies for OCLL very often, but more recent studies showed that the trend is moving toward the students' more frequent use of discipline-specific technologies for learning languages independently (Maloney, 2019; Stevens & Shield, 2010; Steel & Levy, 2013; Trinder, 2016).

Figure 10
Discipline-specific technologies



A: Online dictionaries/ apps, B: Online translators/apps, C: Vocabulary exercises, D: Grammars exercises, E: Listening exercises, F: Speaking exercises, G: Writing exercises, H: Reading texts on PC/cell phone, I: Online English proficiency tests, J: Apps for tests (e.g. TOEFL/TOEIC), K: Language games, L: Language learning websites, M: Courses on DVD/CD, N: Online courses, O: e-portfolios, P: language-related software, Q: Microsoft Office

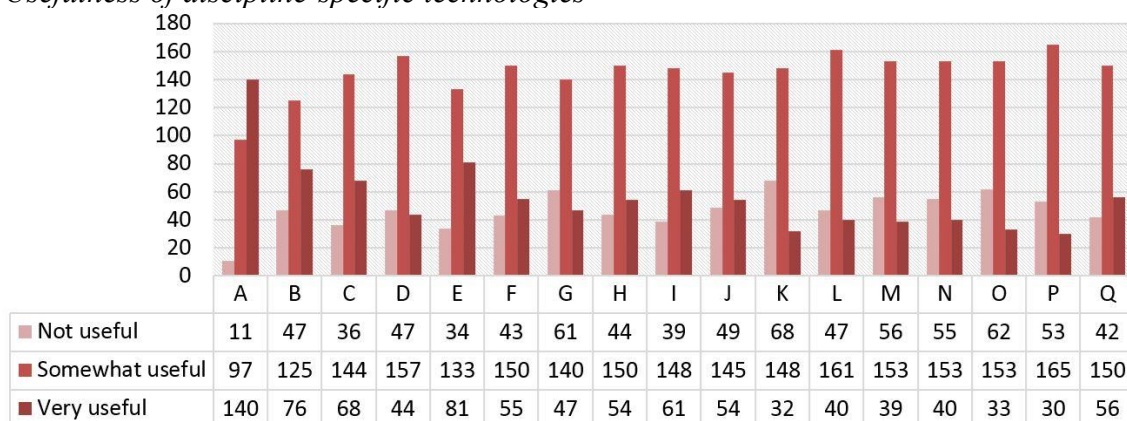
The usefulness of discipline-specific technologies for OCLL

The last part of this section of the questionnaire asked the students to indicate their perception of the usefulness of discipline-specific technologies for OCLL. The Likert scale was kept short intentionally to give us more focused information. As shown in Figure 11, about 56% found online dictionaries/dictionary apps as the most useful technology, followed by listening exercises (32%) and online translators (30%). Interestingly, although the students selected vocabulary exercises (online/applications) as a frequently used technology for language learning, they do not perceive it as being very useful. In almost all previous studies, online/app dictionaries were determined as the

topmost useful technology (Maloney, 2019; Peters et al., 2009; Steven & Shield, 2010; Steel & Levy, 2013; Trinder, 2016). Moreover, most of the students ranked all the discipline-specific tools as somewhat useful for language learning which shows their understanding of the potentials of technology for language learning. Even though there are so many studies focusing on language learning through games (Jabbari & Eslami, 2019), students perceived language games as the least useful technology.

Figure 11

Usefulness of discipline-specific technologies

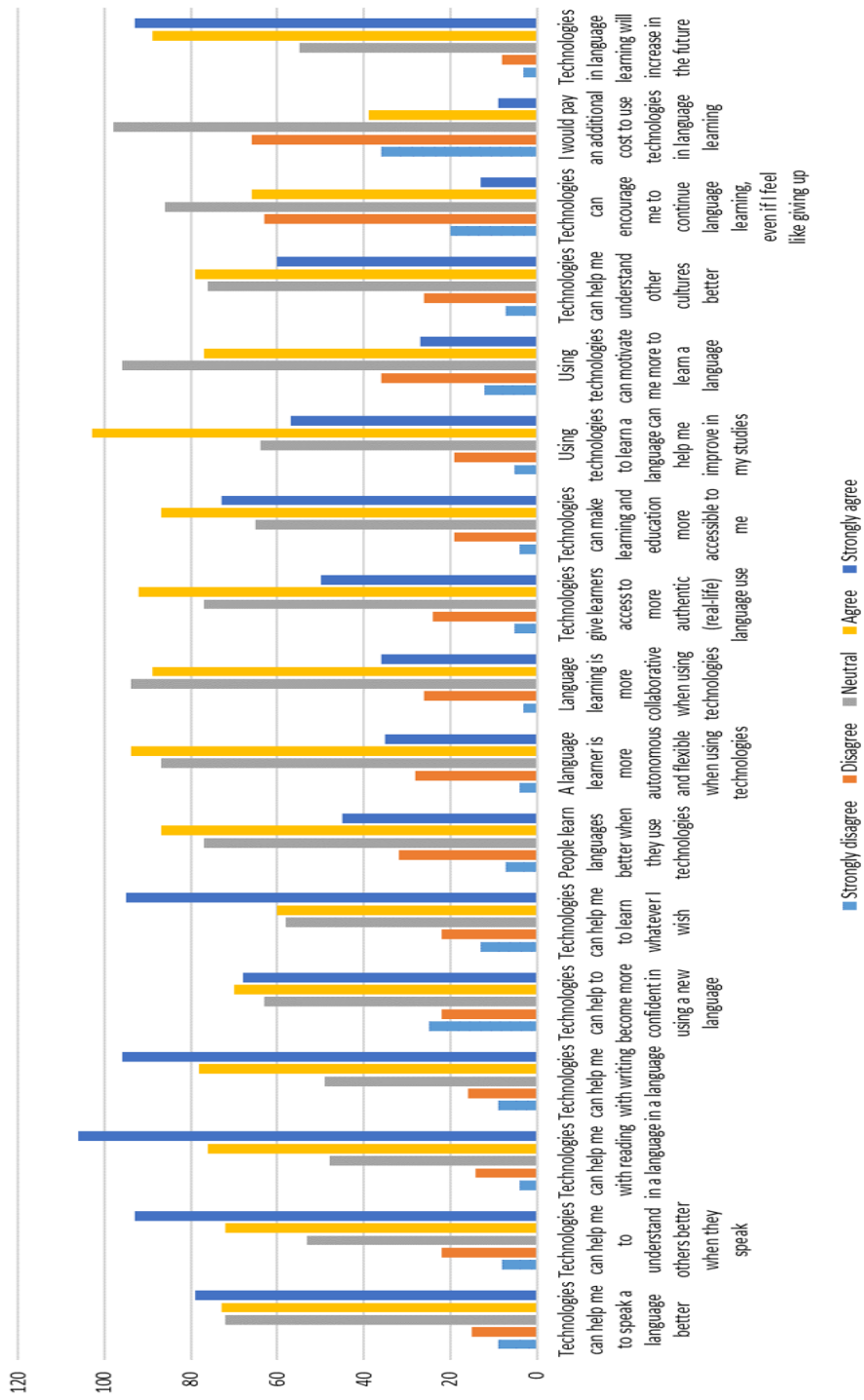


A: Online dictionaries/ apps, B: Online translators/apps, C: Vocabulary exercises, D: Grammars exercises, E: Listening exercises, F: Speaking exercises, G: Writing exercises, H: Reading texts on PC/cell phone, I: Online English proficiency tests, J: Apps for tests (e.g. TOEFL/TOEIC), K: Language games, L: Language learning websites, M: Courses on DVD/CD, N: Online courses, O: e-portfolios, P: language-related software, Q: Microsoft Office

Students' attitudes toward the use of technology for OCLL

The students' attitude toward the use of technology for language learning was measured through 17 questions. Questions 1 to 6 focused on the *direct* effect of technology on language learning, and questions 7 to 17 on the *softer* effect. As indicated in Figure 12, in general, the students hold positive attitudes toward the use of technology for language learning, and in particular, they hold more positive attitudes toward the direct effect of technology. In the previous sections, it was indicated that the students mainly used information technologies and they mainly preferred reading through the Internet. This preference is also reflected in the Table, in which the most positive attitude is towards the use of technology to enhance reading proficiency.

Figure 12
Students' attitudes toward the use of technology for language learning



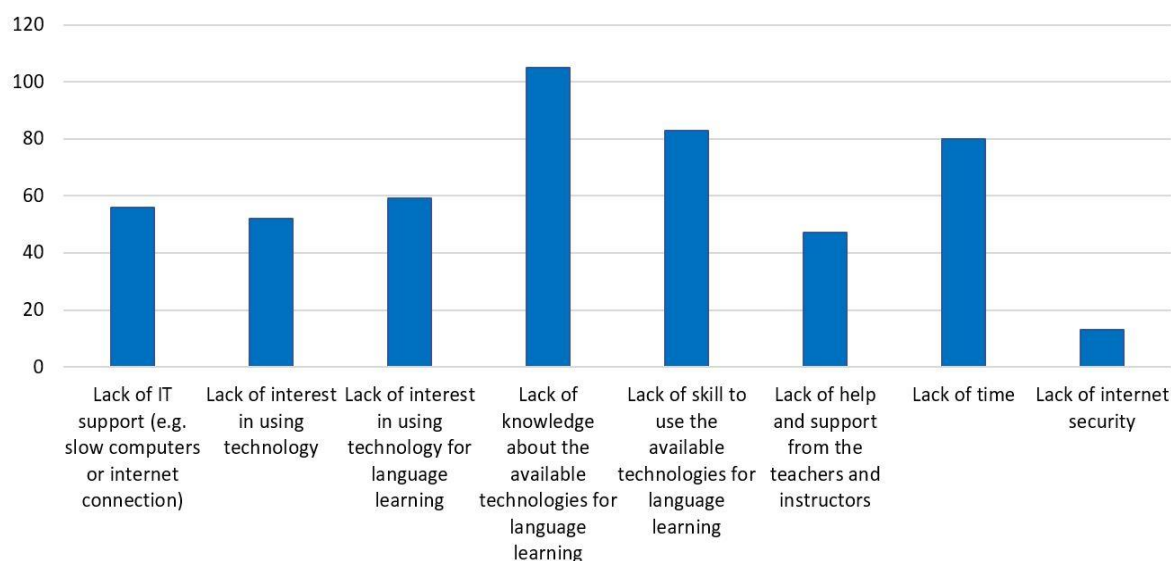
Challenges and barriers of using technology for OCLL

During the focus group discussion, the students mentioned some of their challenges of using technology for language learning. These challenges were discussed and rewritten by the researchers as eight items in this section of the questionnaire. Figure 13 shows the students' choices.

As indicated in the Figure, the main barriers of using technology for OCLL is the students' lack of knowledge about the available technologies, their lack of skill to use available technologies, and lack of time. The analysis of the students' responses to the open-ended question asking them to explain their barriers in details showed that the majority of the students have no idea about the use of technology for language learning and the only applications they use to improve English are Weblio (Japanese-English dictionary), and some applications to practice the TOEIC test. Several students mentioned they lack time because they have to spend a lot of time searching for specific applications and courses to practice English, and their searches are usually in vain.

Figure 13

Students' challenges with using technology for OCLL

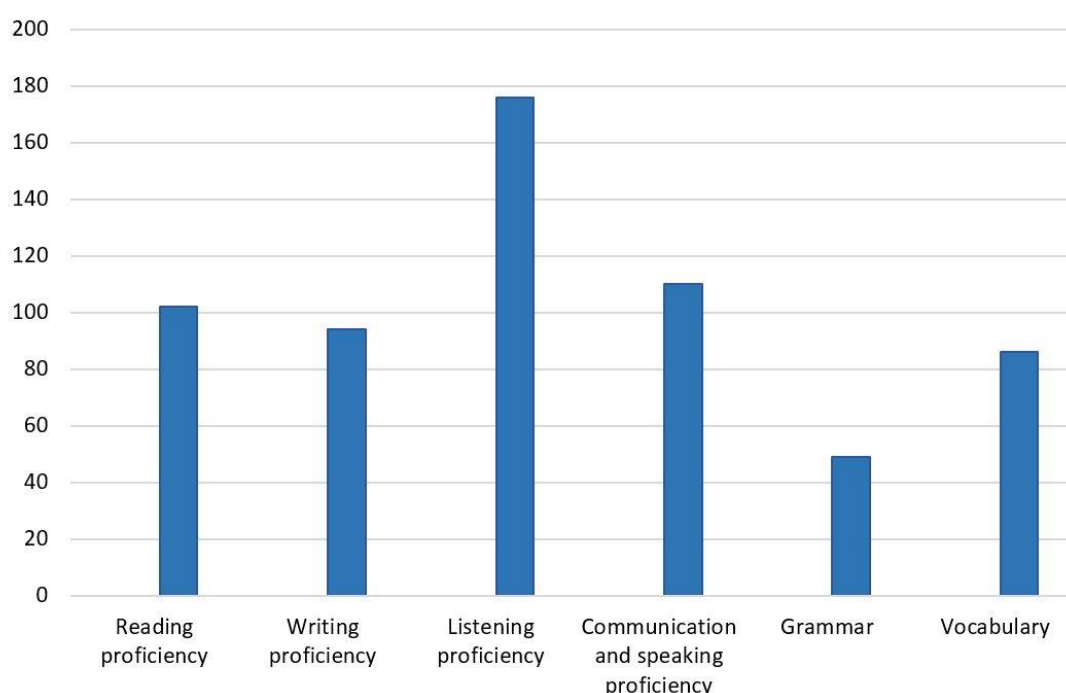


Students' language learning needs and expectations

Finally, the students were asked to write about their needs, and choose the language skills they believed they needed to improve (Figure 14). The analysis of the responses to the open-ended question resembled that the students require having a reliable support system at the university to introduce the available technology for language learning, instruct the students how to use them, evaluate their progress, and provide feedback. In addition, as the Figure shows, the students' main concern is their listening proficiency

improvement. They mentioned that their main barrier to communicate with foreigners is their poor listening comprehension. Therefore, the students' primary needs are in contrast with the content of English classes at university which mainly focuses on reading and grammar (Saito, 2019).

Figure 14
Students' language learning needs



Discussion

The present study attempted to investigate Tohoku University students' use of technology in their everyday life in their first language (i.e. Japanese), in the target language (i.e. English), and for learning the target language. In terms of everyday use of technology in the first language (L1), findings revealed that students tend to use emerging communication technologies frequently in their everyday life and that this usage includes mainly peer-to-peer technologies rather than collaborative ones. Although the students' preferences for information technologies are less than communication technologies, reading and watching on the web are the students' two most frequent activities in everyday life.

Regarding the use of technologies in English (L2), it should be mentioned that, even though Japanese is not a globally used language, it seems that the use of technology

in Japanese meets the students' needs for everyday life and educational activities. Despite the students' frequent use of ICT in L1, the findings indicated very little use of ICT in L2. The usage of communication technologies in English was similar to the usage of information technologies and both were at the service of reading rather than communicating. Even though emerging technologies have the potentials of changing students to language producers rather than mere consumers, similar to some previous studies in other countries (Jurkovič, 2019; Jarvis, 2014; Sockett & Kusyk, 2015), even in a technologically advanced context like Japan, it seems students still prefer to maintain L2 users rather than L2 producers. Additionally, in terms of discipline-specific technologies, the worldwide trend of using discipline-specific technologies for OCLL is moving toward the more frequent use of new technologies (Maloney, 2019; Peters, et al., 2009; Stevens & Shield, 2010; Steel & Levy, 2013; Trinder, 2016); however, this is not true about the students of this study, and the highly used technology was online dictionaries/ dictionary apps by only 59% of the students.

In line with previous studies (Lee, Yeung, & Cheung, 2019; Maloney, 2019; Peters et al., 2009; Stevens & Shield, 2010), findings of this study indicate the students' positive perception about the potentials of discipline-specific technologies for language learning and their positive attitudes toward the use of technology for language learning in general. However, despite the students' positive attitudes about the use of technology for language learning, ranking the only traditional language learning tool of online/app dictionaries as the most useful technology reveals the need for further research about the barriers of using technologies for language learning. As stated by the students of this study, their lack of knowledge about the available technology for language learning as well as their lack of skill for using the available technology is the main barriers that increase the students' preference for 訳読, Yakudoku (i.e. translational reading), the popular language teaching method in Japan (Saito, 2019) which connects the students basically to the traditional technologies such as dictionaries and translators.

Furthermore, as stated by the students, the course contents are not in line with their needs. ELT (English Language Teaching) in Japan mainly concentrates on grammar and reading (Saito, 2019), and other skills, especially listening and speaking are seriously missing. This lack of attention to other skills has also affected the students' independent OCLL. Therefore, educational institutions, researchers, and teachers concerned with transforming ELT in Japan and successfully integrating technology into language learning, first need to think carefully about fundamental changes in the traditional teaching methodologies and adjusting them to the students' needs and then provide enough technical support.

In addition, both traditional and emerging technologies are largely used in L1, but hardly used in L2 and for learning L2. Integrative CALL (computer-assisted language learning), proposed more than a decade ago by Bax (2003), refers to an end goal for CALL in which technology becomes normalised. He states that "normalisation is, therefore, the stage when technology is invisible, hardly even recognised as a technology, taken for granted in everyday life" (p. 23). Findings from the previous studies (Conole, 2008; Maloney, 2019; Peters et al., 2009; Steel & Levy, 2013; Stevens & Shield, 2010; Trinder,

2016) as well as findings of the present study indicate that technology normalisation has been achieved gradually over years in everyday life in L1. The students use technology daily and frequently as a part of their lives, and technology is not considered as technology anymore. However, this normalisation has not occurred in L2 in 2019 in a highly technologically-equipped university in Japan. The comparison of the use of ICT in everyday life in L1 and L2 in the present study demonstrates that it is not the technology that prevents normalisation, but rather it is the language implementing the technology. As mentioned by Jurkovič (2019), the distinction between ESL (English as a second language) and EFL is disappearing in many countries because of the widespread use of English in everyday life activities through the internet. However, regarding the findings of this study, it seems that English still remains a foreign language in Japan due to the students' interest in using technology in Japanese. Further research needs to first concentrate on finding ways to transfer students from the Japanese technological world to the use of technologies in its original language and facilitating e-acquisition, so that they can enhance e-learning accordingly.

Moreover, how the students apply technology in their everyday life strongly influences their use of technology for other purposes (Levy & Stockwell, 2006; Trinder, 2016). Therefore, findings of the students' use of ICT in L1 can help to improve the academic and formal use of ICT for language learning within the classrooms. For instance, unlike the use of wikis and blogs as the most researched technologies in CALL (Reinhardt, 2019), findings of the everyday use of ICT in L1 indicated the students' strong preference for peer-to-peer communication technologies rather than collaborative ones. The students act as passive readers in collaborative technology than active participants, given this, practitioners and teachers in Japan can concentrate more on implementing peer-to-peer communication technology to improve productive skills especially speaking and implement collaborative technology as receptive skill facilitators. In addition, knowing students' preferences and the extent of their familiarity with technological tools can be a guideline for designing appropriate OCLL programs.

Conclusion

The review of different previous studies and the findings of the present study demonstrate how context-specific the use of technology is. Consequently, it is suggested that other CALL practitioners replicate similar case studies in Japan or other Asian countries to first have a clearer picture of students' experiences with technology and to figure out if it is the technology, language, teaching methods, or other factors that hinder the potentials of using ICT for language learning in that specific context, and then decide on implementing appropriate technology or appropriate training. In addition, the findings of the use of technological devices revealed that, although the students use mobile devices much more than desktop PCs, the advantages of the mobility features seem to be missing, thus, further studies might focus on finding the barriers of taking advantages of the mobility feature of the devices.

It should be emphasized that the present study has also some limitations. Although the outcomes of this case study might portray current trends of Japanese students' use of ICT beyond the classroom, the participants of the study are EFL students of one of the national universities in Japan; therefore, generalizability of the findings should be considered carefully. In addition, the current study looked at the students as a group, so future studies on finding individual experiences with technology through quantitative and qualitative methods could also give a clearer picture of the students' engagement with technology beyond the classroom. Sockett (2014) believes that measuring the students' online activities at a certain period might be influenced by various external and internal factors, thus longitudinal studies could be conducted to measure the developmental path of technology-based OCLL.

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