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ICT beyond the Language Classroom in Technologically Advanced and Advancing Countries: The Case of Japan and Iran

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ABSTRACT

It is believed that there is a significant difference between the use of technology in technologically advanced and advancing countries, and the users in the former act far better with technology than the users in the latter. However, there is not enough report on how this usage differs in terms of the independent use of technology in a foreign language or for learning that language. Therefore, the present cross-cultural case study was conducted to compare and contrast the patterns of using technology in two Asian universities, one in Japan (a technologically advanced country) and another in Iran (a technologically advancing country). The participants were 248 Japanese and 235 Iranian students. The data were collected through an online questionnaire that gained information about students' use of technology in everyday life in their L1 (Japanese & Persian) and in L2 (English), students' use of discipline-specific technology in English, and their attitudes toward the use of technology for language learning. The findings revealed that there is not a very significant difference between the patterns of using technology in Japan and Iran in both L1 and L2. The major difference was that the Japanese tended to use more information technologies in L1, while the Iranians leaned toward communication technologies. It was also found that Iranian students used technology in L2 more than the Japanese, especially in terms of communication technologies.

Keywords: computer-assisted language learning; out-of-class Language learning; normalization; Information and communication technology; discipline-specific technology

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Introduction

A large number of studies in the area of Computer-Assisted Language Learning (CALL) provide evidence that much of language learning can happen in the absence of actual classrooms with the learners' autonomous use of Information and Communication Technologies (ICTs) (Doran, 2020; Lai, 2019; Lai et al., 2014). As defined by Trinder (2016), information/ input technologies refer to "general web content and online/stand-alone media which tend to be used for entertainment or information retrieval" (p. 89), and Communication technologies refer to "devices and applications that facilitate one-to-one or one-to-many communication" (p. 89). The availability of ICT and their easier access outside the classroom rather than inside it in both technologically advanced and advancing countries adds to the significance of investigation in this area (Hinostroza, 2018). However, the difficulty of observation and assessment of the process and achievements of out-of-class language learning (OCLL) has caused a gap in the related literature (Lai, 2019; Maloney, 2019; Reinders & Benson, 2017; Trinder, 2016). A review of the literature on technology-based language learning indicated that Asian countries have the largest number of technology-related studies, especially MALL (Mobile-Assisted Language learning), inside the classrooms (Elaish et al., 2017). However, there is not a sufficient record of Asian students' independent use of ICTs for language learning beyond the classrooms (Mynard, 2019; Thomas, 2017). Moreover, as stated by Bax (2003), the final goal for CALL is to reach the stage of *normalisation*, which is "the stage when a technology is invisible, hardly even recognised as a technology, taken for granted in everyday life" (p. 23). He adds that technology should be integrated into the students' language learning process in a way that it is not considered as a separate part anymore. Consequently, there is a need to step beyond the borders of the actual language classrooms and investigate students' actual usage of ICT to see if CALL has reached its final goal or still moving towards it.

On the other hand, there is a difference between the students' usage of ICT in technologically advanced and technologically advancing countries. Hinostroza (2018) states that both technologically advanced and advancing countries have progressed in the implementation of ICT in Education (ICTE) in three phases of "providing infrastructure, developing support mechanisms for the use of ICT, and aligning ICTE policy with a broader educational vision and set of policies" (p. 100). However, the number of studies conducted in technologically advanced and advancing countries on the usage of technology for learning shows that technologically advancing countries lag behind in terms of not only the actual usage of technologies, but also in terms of the number of studies in this area (Mirabolghasemi et al., 2019). Unlike technologically advancing countries, e-learning and m-learning have generally long been in practice in technologically advanced countries. Therefore, the users in technologically advanced countries act far better with technology for learning than the users in technologically advancing countries (Al-alak, & Alnawas, 2011; Kaliisa et al., 2019). However, there is not enough evidence and report of how this usage differs when it comes to the use of ICT in a foreign language or for learning a foreign language like English, which is the dominant language of the Web. There exist some studies on the use of ICT for language learning in individual contexts (Lockley, 2013; Maloney, 2019; OECD, 2008; Steel & Levy, 2013; Stevens & Shield, 2010; Trinder, 2016); yet, the comparative (cross-cultural) aspect is missing in the related literature. Accordingly, drawing on the notion of normalisation (Bax, 2003) as the theoretical framework, the present study made an attempt to compare and contrast the usage of ICT, first in everyday life in L1, and then for language learning in L2, in a technologically advanced country (i.e. Japan), and a technologically advancing country (i.e. Iran), according to the ICT Development Index (2017).

The present study is aimed at illustrating a snapshot of the use of ICT in Japan and Iran to reflect if the patterns of using ICT in everyday life in L1 and for OCLL in L2 differ, firstly, in each country, and secondly, in comparison with another country. The other main objective of the study is to reveal the technologies that are normalised and used in everyday life frequently. And finally,

the study is intended to identify how the patterns of technology use and reaching the stage of normalisation relate to the technological advancements of the countries.

Review of literature

ICT for OCLL

So far there have been several comprehensive projects on the students' independent use of ICT for language learning across the world (Conole, 2008; Jurkovič, 2019; Lockley, 2013; Maloney, 2019; OECD, 2008; Peters, Weinberg, & Sarma, 2009; Steel & Levy, 2013; Stevens & Shield, 2010; Trinder, 2016). Although the country, language, and types of technologies selected are different in these studies, they are all centred around the notion of the importance of the use of ICT for language learning and reaching the final stage of CALL defined by Bax (2003). He criticized the three phases of CALL introduced first by Warschauer and Healey (1998), and restated the three phases as Restricted, Open, and Integrated CALL, influenced by the dominant language learning theories at the time. The final phase, Integrated CALL, that is the 21th century CALL, proposes normalisation as the final goal for CALL (Bax, 2003). He states that technology should be integrated into everyday life to the extent to become invisible. Bax (2003) adds that at this stage technology becomes the "integral part" of learning not the centre of it (p. 24). Therefore, drawing on the framework of normalisation, this section provides a review of some of the related studies and concludes how CALL has moved toward its final goal.

One of the most comprehensive studies in this area was conducted by Stevens and Shield (2010). The aim of the project was to investigate the usage of ICT in everyday life and for language learning in eight European countries. The findings 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 usage of ICT for language learning indicated that online dictionaries and grammars, informational websites, films on DVD (with or without subtitles) as the first set of technologies were used by more than 80% of the participants, followed by emails and music on digital media (around 70%).

Steel and Levy (2013) also conducted a survey with 587 foreign language students at an Australian university in order to explore students' use of technologies inside and outside of the classroom. It was revealed that a large number of technologies were used outside rather than inside the classroom, and the three highly used technologies for language learning were online dictionaries and translators, YouTube, and social networking sites. It was concluded that the students' preference for using non-institutional technologies outside of the classroom resembles the growing trend toward the independent use of technologies and learner autonomy.

Trinder (2016) also surveyed 175 Austrian university students and asked them about the technological tools they used in their first language (L1) and English (L2). She classified technologies into information, communication, and discipline-specific technologies. The findings showed that communication technologies were mostly implemented 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. Regarding information 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 the L2. And finally, online dictionaries, among the discipline-specific tools, were among the most highly used technologies.

Furthermore, Maloney (2019) investigated 600 American-Spanish L2 students' use of technology beyond the classroom. 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 communication/input technologies.

Regarding the contexts of the present study, in Japan, the OECD seminar in 2008 emphasized the importance of technology-enhanced informal language learning, but it did not report any evidence or trend of the use of ICT. Later, Lockley (2013) surveyed 71 undergraduate students about their experiences with ICT. It was found 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 students did to learn English using mobile phones. And in the Iranian context, to the best of authors' knowledge, so far there have been no studies investigating EFL students' independent use of technology for language learning.

Even though these studies are conducted at different points of time, their quite identical questionnaires enable us to do some cross-cultural comparisons. The overall comparison of the above snapshots of the use of technology across different countries reveals the growing trend of the independent use of technology in everyday life in L1 and L2. Despite this growth, it is indicated that the usage of technology has not been able to keep pace with technological transformations, especially in terms of discipline-specific technologies, since only online/application dictionaries have been the most used technology for language learning within almost a decade. 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 informs CALL practitioners and teachers that the present stage of CALL is different from its intended final goal. Finally, 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.

Technology and English language in Japan and Iran

The usage of the internet and technology has rapidly increased in both technologically advanced and advancing countries. According to the Internet World Stats (2019), Japan and Iran are among the top 20 countries with the highest internet users. In Japan, a technologically advanced country, the growth of using the internet between 2000 and 2019 has been 152%. Out of nearly 127 million population of Japan, there were about 119 million internet users in 2019. This growth also exists in technologically advancing countries such as Iran to a lesser extent. In the same way, Internet World Stats (2019) reports a 25% growth in the internet usage of Iran between 2000 and 2019. In 2019, almost 63 million out of 82 million population of Iran used the internet. Furthermore, according to the latest ICT Development Index (IDI) report in 2017, Japan ranks 10th globally and 3rd in Asia, and Iran ranks 81st and 12th, respectively.

In terms of the language, English, the dominant language on the Web, is a foreign language in both Japan and Iran. According to the EF English Proficiency Index (2019) that classifies 100 countries and regions based on their English skills into 'very high', 'high' mediate', 'low', and 'very low', both Japan (ranked 53rd) and Iran (ranked 69th) belong to the low proficiency classification.

Therefore, using a comparative case study based on a survey questionnaire, the present study tries to quantify whether and to what extent the students in Japan and Iran engage with ICT beyond the conventional language classrooms through the following questions,

1. How different is Japanese and Iranian students' usage of ICT in everyday life (in L1)?
2. How different is Japanese and Iranian students' usage of ICT in English (in L2)?
3. How different is Japanese and Iranian students' use of discipline-specific technologies for OCLL?
4. How do the students' attitudes toward the usage of ICT for language learning differ in Japan and Iran?

Method

Participants

The data of the present study were collected from a national university in Japan and a national university in Iran. The selection of the universities was based on convenience sampling and the researchers' access. Since the majority of the students were freshmen in both Japan and Iran, and the focus of the study was on ICT beyond the classroom, the inside classroom context was not of significant importance for this study. The participants were students of general English classes from different disciplines including Biology, Economics, Chemistry, Engineering, Law, and Science. From the Japanese university, 248 students, and from the Iranian university 235 students took part in this study. It should be mentioned that the participants of the Iranian university were all female. The students were also asked to indicate their level of language proficiency as *Basic*, *Intermediate*, and *Advanced*. Considering the central focus of the study which was the use of technology for language learning, two questions at the beginning of the 3rd section asked about the students' prior experiences with CALL (if any). Except a few students that used electronic dictionaries as the main technology for language learning, the rest of the students indicated no specific prior experience with CALL. The descriptive data of the participants is presented in Table 1.

Table 1
Descriptive Data of the Participants

	Participants	Male	Female	Age Range	Age Mean	Age SD	Freshmen	Language Proficiency Level		
								Basic	Intermediate	Advanced
Japan	248	185	63	18-25	18.75	0.92	214	171	72	5
Iran	235	0	235	18-23	18.79	0.9	211	133	88	14

* SD=Standard Deviation

Instrumentation and analysis

This study is part of a larger research on technology-based OCLL, and the data for the present study were collected through an online questionnaire. The questionnaire consisted of four individual sections including factual, behavioural, and attitudinal questions (Dörnyei & Taguchi, 2010). The first section included factual questions asking about the students' demographic information. The second and third sections included behavioural questions asking about the frequency of using ICT in L1 and L2. The last section consisted of attitudinal questions asking about students' attitudes toward the use of technology for language learning. The questionnaire was first developed and piloted in Japan. Drawing on the questionnaires implemented in the

previous studies, especially, Stevens and Shield (2010) and Trinder (2016), two experts in the filed designed the first draft of the questionnaire. The items of second and third sections of the questionnaire are very similar to Trinder (2016) with additional items that were missing in Trinder's such as *video chat* for communication technologies, or *online journal websites* for information technologies. It should be noted that contrary to Trinder (2016), audio and video are treated as distinct modes in the present questionnaire as they could identify different types of intelligence (Gardner, 1993) and different types of learning styles such as auditory and auditory-visual (Kanar, 1995). Then the questionnaire was consulted by three more Japanese professors, experts in the field, for the validity of its constructs, and finally some items were modified in terms of wording. Since the questionnaire consisted of four distinct sections with different constructs, the reliability was calculated for each individual section separately (Dörnyei & Taguchi, 2010; Saris & Gallhofer, 2014), using SPSS® 18. As stated by Saris and Gallhofer (2014), Cronbach's Alpha is an appropriate reliability estimate for ordinal data and Likert-scale questions. Accordingly, the reliability of each section was calculated and resulted in, section 2 ($\alpha = 0.79$), section 3 generic ICT ($\alpha = 0.94$), section 3 discipline-specific ICT ($\alpha = 0.92$), and section 4 ($\alpha = 0.86$). Considering the difference of the contexts, the questionnaire was once more piloted in Iran with 21 students to see if the questions were understandable and clear. Following the results of the second focus group in Iran and the pilot test with Iranian students, with the approval of the three researchers, some modifications were applied only in the examples provided for some technologies in the questionnaire. The reliability of each section was also calculated and resulted in, section 2 ($\alpha = 0.76$), section 3 generic ICT ($\alpha = 0.87$), section 3 discipline-specific ICT ($\alpha = 0.91$), and section 4 ($\alpha = 0.89$). The questionnaires can be found online through the following links, and the different sections of the questionnaire are explained below.

Japan: https://forms.gle/41dTifiR2V9giSM86

Iran: https://forms.gle/P6Y3SuVgsrtZe9SX6

1) *Demographic information:* faculty, age, gender, and language background

2) *Technologies used in everyday life in L1 (i.e. Japanese in Japan & Persian in Iran):* a list of 17 ICTs categorized into two groups (information technologies & communication technologies). An example was also provided for each technology to help the students better understand the target technology.

3) *Technologies used for language learning beyond the classroom:* This section started with some general questions about the technological device, location, and amount of time spent on OCLL, and also consisted of two subsections. Firstly, students were given the same list of 17 ICTs, but this time they were asked about their frequency of use in English only, not in L1 with the same scale as the previous section. Secondly, a list of 17 discipline-specific technologies for language learning was given to the students.

4) *Students' attitudes toward the use of technology for OCLL:* It was measured through 17 questions from the attitudes' questionnaire developed by Stevens and Shield (2010). The questionnaire mainly consisted of two types of questions: (a) questions focusing on the *direct* effect of technology on language learning (Q1-Q6), and (b) questions focusing on the *softer* effect of technology on learning such as flexibility, accessibility, motivation, etc. (Q7-Q17). The questions are provided in the results section.

In order to analyse the results of the questionnaire, a survey descriptive research method was used. The survey was conducted using online *Google Forms*, and the results were generated in MS-Excel files with which the descriptive statistics of the data using frequency distributions and graph

presentations were calculated. All the participants also signed an informed consent form at the beginning.

Results and discussion

Q 1. How different is Japanese and Iranian students' usage of ICT in everyday life (in L1)?

In addition to the main questionnaire, at the beginning of this section two key questions were also asked to provide a general understanding of the students' use of ICT in everyday life.

- Why and how often do you use technologies in your everyday life?
- Which digital devices do you frequently use in your everyday life?

As indicated in Figure 1, surprisingly, there is not a very significant difference between the usage of ICT in everyday life in Japan as a technologically advanced country and in Iran as a technologically advancing country. The students have a relatively parallel use of ICT in their first language, except for the daily use of ICT for finding information and entertainment, in which Japanese students overtake Iranians. This finding is not surprising as the Computer Entertainment Supplier's Association (2018) announced that in Japan digital games are very popular among males and females of different ages. The findings of this question both in Iran and Japan also accord with the findings of Conole (2008) and Stevens and Shield (2010) in Europe in which ICT was mainly used for communication and finding information.

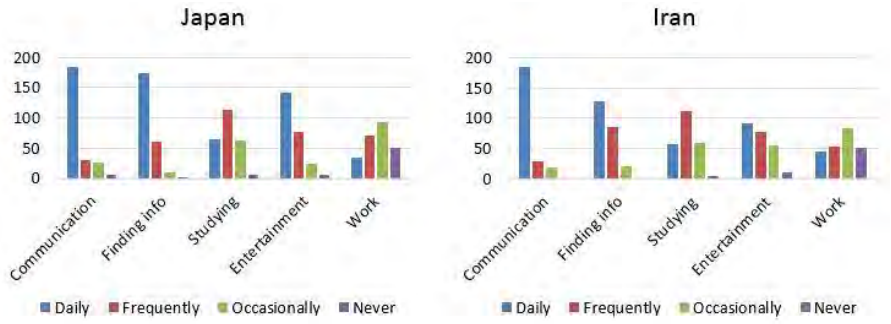


Figure 1. Purpose and frequency of using ICT in L1 in Japan (N=248) and Iran (N=235)

Figure 2 illustrates the Japanese and Iranian students' use of digital devices in everyday life. The significant difference occurs between the usage of desktop and laptop/notebook computers, which reveals Iranian students' preference for desktop computers in comparison with Japanese students. This can be due to socioeconomic differences between the two countries. As identified by Dashtestani and Samoudi (2014), one of the reasons for Iranian students not using laptops is the high price of laptops, compared to PC computers and mobile phones, which is still true in 2020.

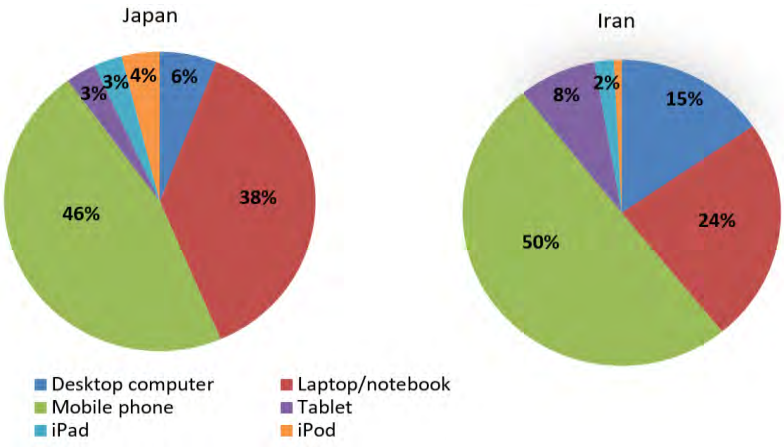


Figure 2. Frequency of using technological devices in L1 in Japan (N=248) and Iran (N=235)

Japanese and Iranian students' use of information technology in L1 is presented in Figure 3. As indicated in the figure, the overall comparison of the findings indicates that Japanese students use information technologies in their first language more frequently than Iranian students. Apart from the larger number of Japanese students using information technologies, the three most frequent activities in both Japan and Iran are "checking information websites", "watching videos", and "listening to audios". The only difference is that Japanese students watch videos on the web/apps while Iranian students watch movies on CD, DVD/Blu-ray. According to the students' comments in the focus group, this difference might be attributed to the lower internet speed in Iran compared to Japan, and the internet filtering for some video-sharing platforms such as YouTube in Iran that can be referred to as sociopolitical hegemonies influencing e-learning and CALL (Marandi et al., 2017). Compared to the previous studies, in European contexts, it was also found that checking information websites and watching videos were the most frequent activities with information technologies (Stevens & Shield, 2010; Trinder, 2016).

Although Japanese students overtake Iranians in the use of information technologies, a significant difference appears in the usage of e-books for which the number of Iranian students is higher than the Japanese. Hashimoto (2010) mentioned that the Japanese spend twice as much time reading print media than digital media; but later, Kurata, Ishita, Miyata, and Minami (2017) came up with opposite findings in their study and argued for a large amount of time the Japanese spend on digital media. The findings of this study, however, are consistent with the findings of the former study, in which the Japanese spent little time on digital media and prefered printed books as physical objects. Moreover, the results of the Iranian students are consistent with the results of Iziy et al. (2019) that found Iranian students' preference for using e-books, as the digital native generation. The researchers believe that this difference between Iranian and Japanese students' use of e-books might partly be due to the price of paper books, and as stated by Alavi and Dashtestani (2014) due to the availability of e-books for free in Iran.

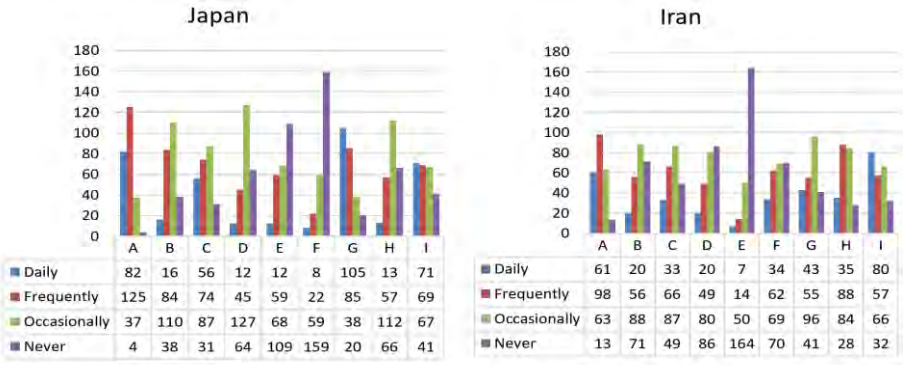
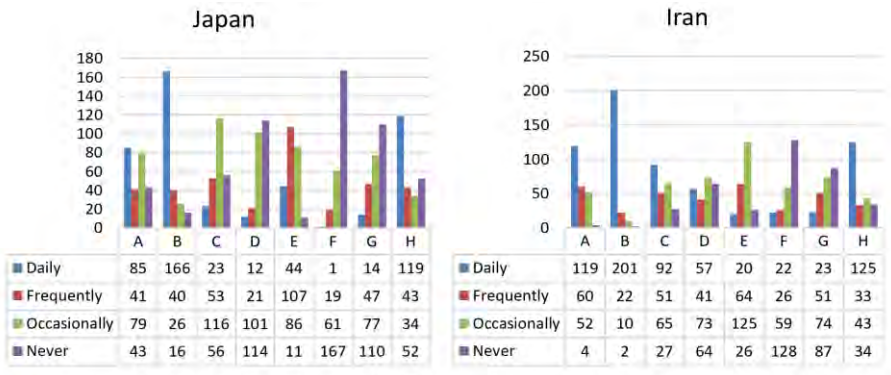


Figure 3. Information technologies used in L1 in Japan (N=248) and Iran (N=235)

As indicated in Figure 4 on the next page, Japanese and Iranian students' use of communication technologies in L1 in everyday life is significantly different from their use of information technologies. Unlike the large number of Japanese students using information technologies in everyday life, surprisingly the number drops sharply in terms of communication technologies. The two highly used communication technologies by both Japanese and Iranian students are "written chats" and "social networking sites"; however, the number of Iranian students using communication technologies daily and frequently in their everyday life is much larger than Japanese students. There is also a noteworthy difference for the third highly used technology which is "emails" for Japanese and "SMS/text messaging" for Iranians. Due to socio-cultural differences and similar to European contexts (Conole, 2008; Trinder, 2016), Japanese students tend to exchange emails rather than SMS/text messaging. It is very common to correspond through emails in Japan, even among family members, as it seems more formal. As stated by Rivière and Licoppe (2005), "Email is the written form of communication that was introduced to Japan to the detriment of SMS because of its lack of interoperability" (p. 103). However, SMS/ text messaging is a common means of communication in Iran, even among students and professors. The figure also indicated that public information-sharing platforms such as "discussion boards" and "blogs and wikis" are the least commonly used communication technologies in L1 in both groups. Although the students of this generation are considered as digital natives, it is essential for them to receive how-to instructions and specific prior training in order to use public platforms such as discussion boards appropriately (Page, Hullett, & Boysen, 2020).



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. Communication technologies used in L1 in Japan (N=248) and Iran (N=235)

Q 2. How different is Japanese and Iranian students' usage of ICT in English (in L2)?

At the beginning of this section two key questions were also asked to provide a general understanding of the students' usage of ICT in English.

- Which digital devices do you frequently use for language learning?
- How much time do you spend on language learning beyond the classroom during a week?

Unlike Japanese and Iranian students' nearly identical use of technology in everyday life, their use of digital devices for language learning differs (Figure 5). Iranian students highly prefer using mobile phones for OCLL, while the percentage of students using mobile phones and laptop/notebook computers are almost equal in Japan. As stated in the previous section, among the mobile devices, mobile phones are generally more affordable than laptops in Iran (Dashtestani & samoudi, 2014).

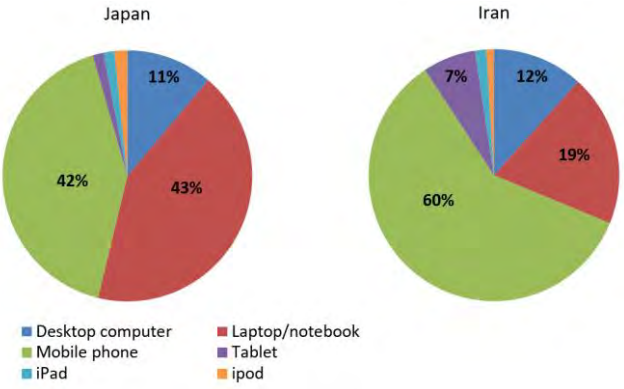


Figure 5. Frequency of using technological devices for L2 in Japan (N=248) and Iran (N=235)

Figure 6 illustrates the time Japanese and Iranian students spend on OCLL per week. As shown in the figure, the majority of the Japanese and Iranian students spend a maximum of 2 hours a week on OCLL. EF English Proficiency Index (2019) ranks 100 countries and regions by their English skills into *very high proficiency*, *high proficiency*, *moderate proficiency*, *low proficiency*, and *very low proficiency*. According to this index, both Japan (ranked 53rd) and Iran (ranked 69th) belong to the low proficiency group; thus, it is not surprising that the students in both countries do not spend enough time learning English beyond the classroom. One of the critical issues in the area of OCLL is the students' reluctance toward OCLL that is mainly rooted in psychological needs (Fathali & Okada, 2018), and requires thorough investigations.

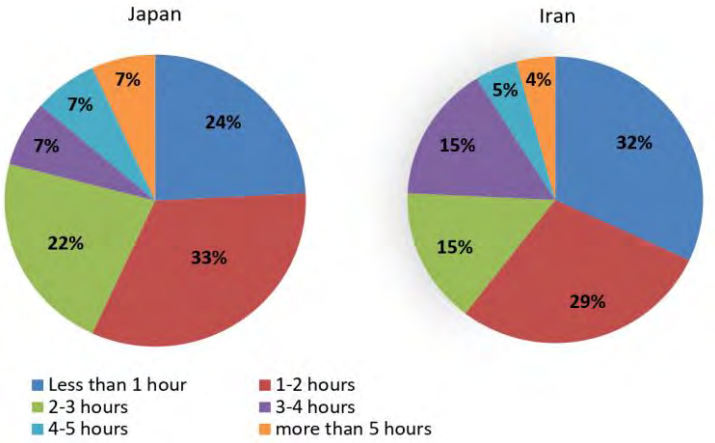


Figure 6. Time spent on OCLL in Japan (N=248) and Iran (N=235)

Figures 7 and 8 present the students' use of ICT in L2 (i.e. English). As indicated in the figures, Iranian students use both information and communication technologies in English more than Japanese students. In terms of information technologies (Figure 7), the three most frequent activities in Japan and Iran are checking information websites, watching videos, and listening to audios. The findings indicate an identical use of information technologies in both L1 and L2. Similar to the usage of ICT in L1, the only difference in L2 is that Japanese students watch videos on the web/apps while Iranian students watch movies on CD, DVD/Blu-ray. As mentioned in the previous section, following what the Iranians stated about the existing barriers for using ICT in L1, it is inferred that the possible reasons for this difference are the internet speed and filtering in Iran, in addition to bank sanctions that do not allow Iranians to shop online, and the frequent blocking of Iranian users by foreign websites, which are considered as sociopolitical hegemonies influencing CALL in particular, and e-learning in general (Marandi et al., 2017). Additionally, Japanese and Iranian students' usage of information technologies in L2 largely accords with European students' usage in terms of their choices of technologies (Peters et al., 2009; Stevens & Shield, 2010; Trinder, 2016). With regard to the use of English language for online information searching, Chen (2020) also found that EFL students' online English information searching strategy (OEISS) was at average level.

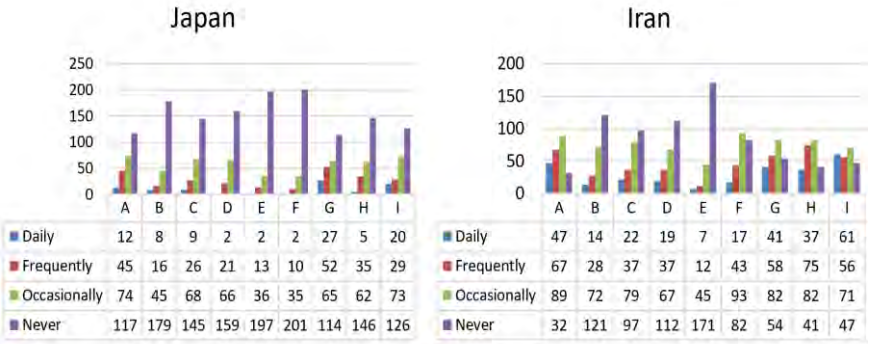


Figure 7. Information technologies used in L2 in Japan (N=248) and Iran (N=235)

Regarding communication technologies (Figure 8), the most frequent activities with ICT in L2 are slightly different in Japan and Iran. The three most frequent activities are social networking sites, emails, and written chats by Japanese students; and social networking sites, written chats, and text messaging/SMS by Iranian students. Both groups frequently performed the same activities of checking information websites, watching videos, and listening to audios with information technologies in L1 and L2; however, unlike the very large use of written chats in L1, Japanese and Iranian students preferred using more public communication platforms such as social networking sites in L2 than merely one-to-one texting. This is not only true about Japanese and Iranian students but also similar findings were reported in European contexts (Steel & Levy, 2013; Trinder, 2016). This is basically due to the potentials of public platforms such as social networking sites that enable students, especially low proficient students, to stay L2 users rather than L2 producers (Fathali et al., 2020; Kabilan, Ahmad, & Abidin, 2010). As stated by Ghanbarpour (2014), factors affecting Iranian EFL students' willingness to communicate should be the focus of future investigations.

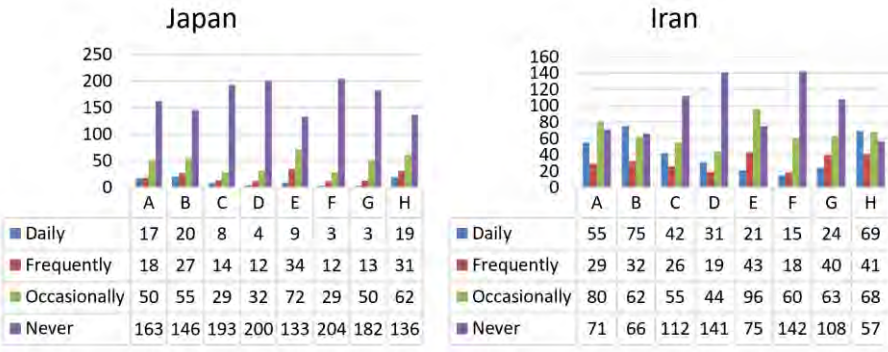
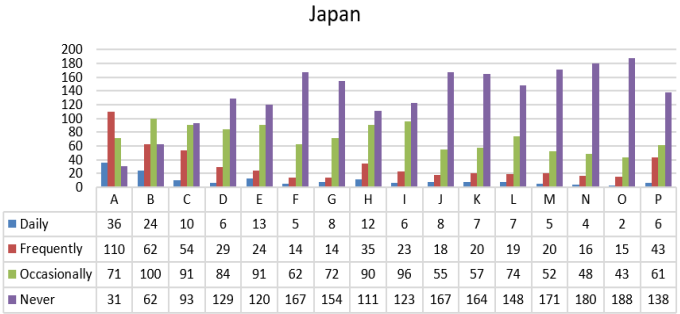


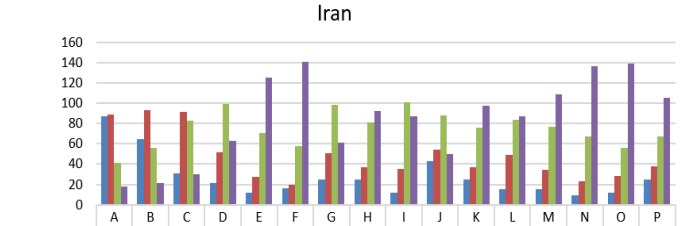
Figure 8. Communicaton technologies used in L2 in Japan (N=248) and Iran (N=235)

Q 3. How different is Japanese and Iranian students' use of discipline-specific technologies for OCLL?

As indicated in Figure 9, overall, Iranian students use discipline-specific technologies for language learning more frequently than Japanese students. In spite of this difference, both Japanese and Iranian students use online dictionaries/apps (N_{JP} =146; N_{IR} = 176), online translators/apps (N_{JP} = 86; N_{IR} = 158), and vocabulary exercises (N_{JP} = 64; N_{IR} = 122) as the top three technologies for language learning daily and frequently. The presence of the Grammar-translation method (GTM) as the principal teacher-centred methodology in several EFL contexts confirms the students' excessive focus on vocabulary and translation. GTM as the dominant teaching methodology in Iran (Ardavani, & Durrant, 2015; Rassouli, & Osam, 2019) has created a long-lasting student mindset that vocabulary, translation into L1, and grammar are keys to successful language learning (Mazdayasna & Molaei, 2015). In a similar vein, 訳読, Yakudoku (i.e. translational reading) as the main teaching methodology in Japan, has significantly influenced Japanese students' language learning preferences for vocabulary, translation, and grammar (Saito, 2019). Given that, the existing old methods still connect the students to the traditional technologies such as dictionaries and translators. Furthermore, Steel and Levy (2013) believe that the students' low level of language proficiency might persuade the students to search for the equivalent of words and sentences in their L1. The same has been reflected in other contexts including Asian, European, and American contexts during different periods in which online dictionaries and translators were the most used discipline-specific technologies (Conole, 2008; Jurkovič, 2019; Lockley, 2013; Maloney, 2019; Peters et al., 2009; Steel & Levy, 2013; Stevens & Shield, 2010; Trinder, 2016).



	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Daily	36	24	10	6	13	5	8	12	6	8	7	7	5	4	2	6
Frequently	110	62	54	29	24	14	14	35	23	18	20	19	20	16	15	43
Occasionally	71	100	91	84	91	62	72	90	96	55	57	74	52	48	43	61
Never	31	62	93	129	120	167	154	111	123	167	164	148	171	180	188	138



	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Daily	87	65	31	21	12	16	25	25	12	43	25	15	15	9	12	25
Frequently	89	93	91	52	27	20	51	37	35	54	37	49	34	23	28	38
Occasionally	41	56	83	99	71	58	98	81	101	88	76	84	77	67	56	67
Never	18	21	30	63	125	141	61	92	87	50	97	87	109	136	139	105

A: Online dics/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: language-related software, P: Microsoft Office

Figure 9. Discipline-specific technologies used in L2 in Japan (N=248) and Iran (N=235)

Q 4. How different is the students' attitudes toward the usage of ICT for language learning in Japan and Iran?

As indicated in Table 2, both Japanese and Iranian students hold positive attitudes toward the usage of technology for language learning. As stated by Stevens and Shield (2010), "Cultural, social and economic contexts of the countries all impact upon the take-up of new technologies for language learning and attitudes to its use" (p. 7). It is generally believed that due to the easier access to technology in technologically advanced countries, users' confidence increases, and following that they have more positive perceptions toward technology compared to those from technologically advancing countries (Chang, 2014; Stevens & Shield, 2010); however, the findings of this section demonstrate the overall more positive attitudes of Iranians toward the usage of technology for language learning than the Japanese.

The findings demonstrate that both Japanese and Iranians have more positive attitudes toward the *direct* effect of technology on language learning. Through questions 1-6, it is revealed that the attitudes of the students are almost in line with their actual usage of technology. For instance, Japanese students' extensive use of information technology is reflected in their strong positive attitudes toward the effect of technology on reading, and Iranian students' use of communication technologies is reflected in their strong positive attitudes toward the effect of technology for speaking and listening.

The second half of the questions in this section focused on the *softer* effect of technology on language learning which includes its effect on learning motivation, flexibility, or accessibility of learning. Considering the effect of technology on language learning in terms of motivation (Q13 & Q15), findings show Iranians' more positive attitudes. The flexibility feature of technology also seems to be more acknowledged by Iranian students. As indicated in Table 2, the cost is an effective factor for both groups (Q16). The students are not yet ready to pay for online language training and courses, even though Japan is a high-income country (World Bank, 2019). The last question also reveals students' belief in the potential increase in using technology for language learning in the future in both countries.

It should be mentioned that gender may have possibly been an influencing factor in this section. Some researchers have argued that 'technology is gendered' (Fallows, 2005), and that men have more positive attitudes toward the usage of technology than women, especially in technologically advancing countries (Hilbert, 2011). On the other hand, however, the results of several more recent empirical studies conducted in educational contexts in both advanced and advancing countries reveal contradictory findings in terms of gender. Some studies found no difference between the attitudes of male and female participants toward the usage of technology for learning (Akbulut, 2008; Al-Emran et al., 2016), while Khaddage and Knezek (2013) found females having more positive attitudes, and Uzunboylu and Ozdamli (2011) found males with more positive attitudes. Since there is not an accurate finding of the effect of gender on the students' attitudes toward technology, this study has not measured the effect of gender.

Questionnaire items:

1. Technologies can help me to speak a language better.
2. Technologies can help me to understand others better when they speak.
3. Technologies can help me with reading in a language.
4. Technologies can help me with writing in a language.

5. Technologies can help me to become more confident in using a new language.
6. Technologies can help me to learn whatever I wish.
7. People learn languages better when they use technologies.
8. A language learner is more autonomous and flexible when using technologies.
9. Language learning is more collaborative when using technologies.
10. Technologies give learners access to more authentic (real-life) language use.
11. Technologies can make learning and education more accessible to me.
12. Using technologies to learn a language can help me improve in my studies.
13. Using technologies can motivate me more to learn a language.
14. Technologies can help me understand other cultures better.
15. Technologies can encourage me to continue language learning, even if I feel like giving up.
16. I would pay an additional cost to use technologies in language learning.
17. Technologies in language learning will increase in the future

Table 2
Students' Attitudes toward Using Technology for Language Learning

	Strongly Disagree		**Disagree**		**Neutral**		**Agree**		**Strongly Agree**	
	JP	IR	JP	IR	JP	IR	JP	IR	JP	IR
1	4%	2%	6%	5%	29%	20%	29%	31%	32%	43%
2	3%	4%	9%	7%	21%	17%	29%	30%	38%	42%
3	2%	1%	6%	7%	19%	26%	31%	28%	43%	39%
4	4%	3%	6%	8%	20%	25%	31%	26%	39%	38%
5	10%	6%	9%	9%	25%	26%	28%	30%	27%	29%
6	5%	6%	9%	7%	23%	19%	24%	28%	38%	42%
7	3%	2%	13%	6%	31%	21%	35%	29%	18%	41%
8	2%	3%	11%	5%	35%	20%	38%	43%	14%	29%
9	1%	1%	10%	11%	38%	27%	36%	29%	15%	32%
10	2%	3%	10%	9%	31%	32%	37%	31%	20%	25%
11	2%	5%	8%	9%	26%	18%	35%	30%	29%	37%
12	2%	2%	8%	8%	26%	17%	42%	30%	23%	43%
13	5%	2%	15%	10%	39%	26%	31%	31%	11%	31%
14	3%	2%	10%	12%	31%	25%	32%	27%	24%	34%
15	8%	4%	25%	15%	35%	18%	27%	35%	5%	28%
16	15%	12%	27%	17%	40%	38%	16%	23%	4%	11%
17	1%	4%	3%	6%	22%	15%	36%	27%	38%	47%
Mean	**4%**	**4%**	**11%**	**9%**	**29%**	**23%**	**32%**	**30%**	**25%**	**35%**

*JP=Japan (N=248), IR=Iran (N=235)
*Decimals were round up in Microsoft Excel

Conclusion

The present cross-cultural study aimed at comparing and contrasting the patterns of usage of ICT in English (L2) in two Asian universities, one in a technologically advanced country (i.e. Japan), and another in a technologically advancing country (i.e. Iran). In order to make a better comparison, the patterns of the usage of ICT in everyday life in L1 (i.e. Japanese and Persian) were also investigated in both universities at the beginning.

Overall, the findings of the present comparison demonstrate that the students' usage patterns of ICT in everyday life in L1 and for language learning in L2 in a Japanese university, in a technologically advanced country, did not reveal very differences with a university in a technologically advancing country like Iran. Findings of the previous studies as well as the findings of the present study reveal that normalisation has been achieved gradually over years in everyday life in L1. Although the students use technology daily and frequently in everyday life, this normalisation has not occurred in L2 in 2019, even in a highly technologically-equipped context like Japan. It should also be added that even in terms of L2, Iranian participants of this study overtake the Japanese.

Accordingly, the findings of the present cross-cultural case study would notify CALL teachers and researchers that the students' independent use of ICT for language learning cannot be easily interpreted based on the technological advancements of a context or the participants' use of technology in L1. As a result, it is suggested that other CALL teachers and researchers replicate similar case studies in other countries to have a better 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.

The study highlighted students' willingness to make use of information technologies in L2 independently at the service of improving their receptive skills of reading and listening. However, in terms of using communication technologies, either one-to-one or collaborative technologies, the students had very limited independent attempts. Accordingly, teachers and practitioners need to pay additional attention to the use of communication technologies and to equip the students with the required skills and support. Further works need to focus on communication technologies and to investigate students' required skills for the better implication of communication technologies in L2 as well as removing the existing barriers for using them.

Moreover, the students' use of technology in everyday life strongly influences how they use technology for other purposes (Levy & Stockwell, 2006; Trinder, 2016). Given that, findings related to the students' use of technology in L1 could help improving the academic use of technology within the classrooms. For instance, contrary to the use of wikis and blogs that are studied several times in CALL (Reinhardt, 2019), everyday use of ICT in L1 indicated the students' excessive use of one-to-one communication technologies rather than collaborative ones. Therefore, teachers and practitioners could take more advantages of one-to-one communication technologies for the enhancement of productive skills than the collaborative technologies which have the potentials of keeping students passive reader. Additionally, knowing students' preferences and the extent of their familiarity with and usage of technological tools can be a guideline for designing appropriate OCLL programs.

Similar to other studies, the generalizability of this study is restricted by the certain limitations. Firstly, this study obtained data from only two universities in two countries; therefore, it might be difficult to generalize the results to other universities in these countries, to other countries, and also to other groups in these societies, since university students tend to be more privileged with regard to accessing ICT. Secondly, the effect of gender is not taken into consideration in this

study and Iranian men were not included. Even though education appears to lessen gender digital divide (Hilbert, 2011), the findings might be different with male Iranian students.

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