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The role of EFL learners' autonomy, motivation and self-efficacy in using technology-based out-of-class language learning activities

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This study aims to identify which technology-based out-of-class activities are more commonly used by Iranian EFL learners outside language classrooms. Furthermore, it explored the relationship between the use of technology-based out-of-class language learning activities (TBOCLLAs) by EFL learners and three individual learner characteristics such as motivation, autonomy and self-efficacy. The participants of the study consisted of 100 Iranian EFL learners who were asked to take part in the study by filling out four questionnaires regarding TBOCLLAs, motivation, autonomy, and self-efficacy. The results revealed that among different TBOCLLAs, receptive activities were relatively more frequent among learners than productive ones. Results also indicated that there was a strong positive correlation between technology-based out-of-class language learning activities and Iranian EFL learners' motivation levels. Moreover, it was found that there was a strong correlation between TBOCLLAs and the EFL learners' autonomy. In the same vein, the findings revealed a strong and statistically significant correlation between TBOCLLAs and the learners' self-efficacy. Finally, the research findings suggested that learners' motivation, autonomy, and self-efficacy were all significantly contributing to the participants' use of technology-based out-of-class language learning activities. Among the above mentioned individual factors, motivation had the highest predictive value, and among self-efficacy and autonomy, the latter could better predict the use of TBOCLLAs by the learners.

Keywords: Technology-based Out-of-Class Language Learning Activities (TBOCLLAs), Motivation, Autonomy, Self-efficacy

Forum

1. Introduction

During the past two decades, the abundance of online technology advancements coupled with the ever-growing development of electronic gadgets has put ubiquitous and authentic language input at the language learners' fingertips all around the globe. These new technologies have aided language learners and teachers to engage in the language learning process beyond the four walls of traditional classrooms. An increasing number of studies in recent years have investigated the effects of incorporating different forms of technologies in language learning (e.g., Lai, Shum & Tian, 2016; Golonka, Bowles, Frank, Richardson & Freynik, 2014; Lee, 2012; Benson & Chik, 2010; Rassaei, 2017). Out-of-class language learning mainly through the use of technology has also proved to have a significant role in fostering language learning capabilities (e.g., Fathali & Okada, 2016; Lai & Gu, 2011; Chang, 2007; Pearson, 2004). Benson (2001, p. 62) defined, out-of-class learning, as "any kind of learning that takes place outside the classroom." In a similar way, technology-based out-of-class language learning activities (TBOCLLAs) can be defined as any technology-assisted language learning activity that takes place outside of classroom borders. Technology plays a significant role in today's education and offers many tools for autonomous learning outside the classroom (e.g., Conole, 2008; Steel & Levy, 2013).

As digital technologies become more affordable, ubiquitous and portable, language learning continues to occur across multiple settings at home, workplace, leisure, and even travel. Access flexibility of technology provides numerous opportunities for language learning to take place outside of classrooms, and it might as well foster the initiation of self-directed, autonomous language learning (e.g., Lai, 2017; Forsythe, 2013). According to Moore (1972, 1993), when a learner rather than a teacher, sets the learning objectives and after the completion of learning process makes assessments regarding the learning experience, is engaged in an autonomous learning process. Benson (2001) maintains that technology facilitates self-access in learning, and gives learners numerous opportunities to self-direct their learning and take over the control. Benson (2011), claims that autonomy could be transferred gradually to learners via out-of-class, self-directed learning activities.

As a new technology, smartphones and tablets have opened up numerous opportunities for language learners to engage in out-of-class language learning activities. It can be argued that the incorporation of technology in language learning fosters L2 learners' motivation. In general, motivation is considered to be the most influential factor that educators can target with the purpose of enhancing learning experience (Williams & Williams, 2011). According to Dörnyei (2001), a learner is motivated when he deliberately chooses to learn the L2 and is not only persistent about it, but also willing to increase efforts in the act of learning. Ellis (2008) considers motivation as the most influential factor of individual differences (IDs) in language learning. According to Darasawang and Reinders (2010), technology-based learning gives students more responsibility and enhances their motivation. In addition, technology integration with education has the potential to increase students' motivation (e.g., Ushida, 2005; Warschauer, 1996). As noted by Ciampa (2014), learners often find their informal learning activities more motivating than learning in formal settings such as schools. Abeysekeraa and Dawsonb (2015) maintain that flipped classroom approaches, as it moves the traditional face-to-face lectures to the out-of-class environment through the use of technology, hence it might improve learners' motivation. Dörnyei and Ushioda (2013, p. 4) defined motivation as "the direction and magnitude of human behavior, that is: (a) the choice of a particular action (i.e., why people decide to do something), (b)

the persistence with it (i.e., how long they are willing to sustain the activity), (c) the effort expanded on it (i.e., how hard they are going to pursue it)."

Some people achieve native-like levels of competence in a foreign language. In contrast, others never seem to progress much beyond a beginner level. Some language learners make fast and reasonably steady progress, while others advance slowly and with great difficulty. The reason probably is that people are not homogenous and have individual differences such as motivation and various personality traits (Zafar and Meenakshi, 2012).

Bandura (1977) defined self-efficacy as the learners' self-judgment about their abilities to execute and organize actions required to attain designated types of performance. In other words, self-efficacy is the confidence in one's abilities to do something that one wishes to do.

Holec (1981) defined learner autonomy as "The ability to take charge of one's own learning, which is specified as to have, and to hold, the responsibility for all the decisions concerning all aspects of this learning" (p. 3). Although there is now a well-established body of research regarding the role of different forms of technology in language learning, the association between the use of TBOCLLAs and individual learner differences is less understood. Understanding the association between these two variables can help language teachers and researchers to better understand how technology-based out of class activities promote L2 development. The major objective of the present study is thus to investigate the associations between the use of TBOCLLAs and three individual learner differences including motivation, self-efficacy and autonomy.

2. Literature review

2.1. Technology-based out-of-class language learning activities

Over the past few years, there has been a growing interest in language learning beyond the classroom (Benson & Reinders, 2011; Nunan & Richards, 2015), mainly as a result of the ubiquity of technological affordances and gadgets that Benson (2011) has stated, for the first time provides a myriad of opportunities for language learners to merely bypass classrooms and directly go towards the target language context and its users. In fact, concerning learning English, conventional classrooms may no longer be the dominant language-learning environment (Sockett, 2014). Today, the Internet has provided access to language learning resources for almost anyone, anywhere, anytime, without the need for going to class or being formally taught. In other words, students can learn at their own time, at their chosen place and at their own pace.

Previous research indicated that successful language learners often attribute their achievements in language learning to active engagement with the target language (TL) beyond the classroom (e.g., Lai & Gu, 2011). In other words, language learners go on the Internet to find and use information in TL context through reading authentic materials online, watching videos, listening to podcasts, etc. (Levent, 2012). Kuure (2011) held that the Internet, media, and synchronous computer games provide opportunities for language learning as well as building social relationships through collaborative problem solving and networking. Yang and Chen (2007), argued that the Internet could create opportunities for students to cultivate the five Cs of foreign language education (Communication, Culture, Connections, Comparisons, and Communities). In a recent study Peters (2018) investigated the effect of out-of-class exposure to authentic language learning materials through listening to music, watching television and movies with and without subtitles, computer games,

books, magazines and the internet among two groups of Dutch-speaking teenagers. He concluded that there is a positive relationship between learners' vocabulary knowledge and exposure to non-subtitled TV programs and movies, the Internet, and printed texts. He also concluded that out-of-class exposure had a larger effect on learners' vocabulary knowledge than the length of instructions.

In a recent study, Demouy *et al.* (2016) reported that a notable proportion of distance language learners use their mobile devices as their primary learning tools. More specifically, 60.25% of advanced level students, 51.65% of upper intermediate level students and 45.9% of beginner level students used their cell phones as the primary tool for language learning. The study also revealed that, after cell phones, iPads and tablets came in second place with a narrow margin followed by iPods and MP3 players. According to the researchers, accessing the language course website, listening to audio files and programmes in addition to watching videos were the most common activities done by the participants. Reading, grammar and vocabulary practices had the second position.

2.2. Motivation

Research on motivation in second language acquisition (SLA) has a history of more than half a century, starting with Gardner and Lambert's social psychological approach during the late 1950s. In the 1990s, conforming to the dominating cognitive approach, the focus turned to be on the situation and context of learning. Currently, the change of interest is toward process-oriented approach and macro/micro perspectives which are present in the works of researchers such as Dörnyei and Ushioda who proposed the L2 Motivational Self System (Dörnyei & Ushioda, 2013).

Most of the motivation studies in the field have been carried out within the traditional educational context, that is, without the integration of technology. Especially, despite the claim that technology integration has the potential to increase students' motivation, only a few empirical studies have systematically explored the value of motivation in computer-assisted language learning (CALL) context (e.g., Ushida, 2005; Warschauer, 1996).

In a significant survey study, Warschauer (1996) concluded that students overall had a positive attitude and motivation toward using computers for L2 Learning. In another study, Ushida (2005) found that motivation and attitudes toward L2 were positive during online courses which enhanced students' L2 learning.

According to Stepp-Greany (2002), CALL programs, especially with a focus on multimedia components, can usher in students' interests and motivation. Ghalami, Nobar, and Ahangari (2012) found that CALL could be used to motivate and enhance the formation of positive attitudes in students. Furthermore, Lam (2000) maintained that an online community positively impacts learners' ideal self and ought-to self-motivations. In another study conducted by Ayres (2002), it was indicated that learners appreciate and value the learning that they do via using computers, resulting in high face validity for CALL. Students who see CALL as an essential part of the course also have a high level of motivation and perceive CALL as relevant to their needs.

There are restrictions in formal classrooms that might interfere with students' motivation, such as demands for completing tasks without sufficient resources introduced in schools (Wolters, 2011). In a similar line of study, Song and Bonk (2016), suggest that informal learners take into consideration three impactful motivational and self-directed informal learning factors: (1) freedom and choice, (2) control, and (3) interest and engagement.

Moreover, Hafner and Miller (2011), investigated the relationship between motivation and autonomy. Research findings pointed out that motivation influences the extent to which learners are ready to learn autonomously and that teachers might, therefore, strive to develop student motivation before they are trained to become autonomous. Another substantial individual difference that may be fostered by out-of-class activities is autonomy.

2.3. Autonomy

In recent years, implementing cutting-edge technologies (e.g., smartphones, tablets, or ubiquitous technologies) has empowered learners to learn what they choose informally and in nontraditional ways (Bonk, 2009). Benson (2001) maintains that technology has the inherent potential to promote autonomous behavior in learners because it facilitates self-access in learning, and gives learners numerous opportunities to self-direct their learning and take over the control.

Autonomy opens an outstanding window of opportunity for avid learners to pursue their learning goals in today's technology-driven world. Balçıkanlı (2010) suggests that out-of-class learning serves as a platform on which students could fully develop their autonomy. Sundqvist and Sylvén (2014), found that upper primary school EFL learners in Sweden spend approximately seven hours per week to engage in language learning activities via computers. Arikan and Bakla (2011) conducted a study on a group of Turkish university L2 students and found that experience with blogging contributed to their autonomy development. Furthermore, Jarvis (2013) maintained that the application of technology impacted the study participants' autonomous learning notably in self-study centers. They also noted that informal learning features incorporated in the project helped achieve this aim.

Rahman (2013) who explored the relationship between CALL and EFL learners' autonomy, concluded that technology is a great learning tool, and that CALL has a positive effect on learners' autonomy if learners perceive the medium as efficient and useful. In a similar study, Meri (2012) investigated the relationship between learner autonomy and CALL in Turkey. She concluded that CALL fostered students' autonomous language learning.

Smith and Craig (2013) administered a training program at a Japanese university to raise students' awareness and skills for autonomous language learning. They introduced a set of study skills and relevant CALL resources, and several tools, such as e-learning portfolio and self-reflection diaries to their students. The results of the study indicated that the training increased some students' positive perceptions of autonomous learning and that some students started to incorporate more CALL resources into their study plans. Yet another individual difference that plays a role in learning L2 via out-of-class activities might be self-efficacy.

2.4. Self-efficacy

In today's technology-based world, L2 learners have a choice to learn on their own using multiple apps, both web-based and offline, from mid-range to high-end devices such as smartphones, tablets, and laptops. Hence, learners' self-efficacy may play an essential role in their learning outcomes.

It is easy for learners with high self-efficacy to start learning activities as they believe in their abilities, yet it is not an easy task for the ones with low self-efficacy since they do not trust their abilities and worry about the failure just the beginning (Schunk, 1991). Those

who have higher self-efficacy beliefs about their capabilities, while performing a task, get engaged in activities more rapidly, strive harder, continue to do it even if they confront difficulties and at the end do better (Pajares & Schunk, 2001).

Goulão (2014) looked into the relationship between self-efficacy and academic achievement of adult learners in an online setting. The findings showed a positive and significant correlation between self-efficacy and academic achievement. Chen and Lin (2009) discovered a positive relationship between learners' self-efficacy and their writing performance. Hoffman and Spatariu (2008) claimed that by using Internet-based instruction, students with higher self-efficacy perform better than those with lower self-efficacy. Joo, Bong, and Choi (2000) found a positive correlation between computer self-efficacy and students' success in L2 learning. In a more recent study, Rachels and Rockinson-Szapkiw (2018) investigated the effects of a mobile app on elementary students' Spanish achievement and self-efficacy and found that Duolingo is almost as powerful as the traditional face-to-face instruction when it comes to teaching Spanish to elementary students. Furthoremore, Kukulska-Hulme and Viberg (2018) concede to the fact that mobile incorporated language learning increases learners' motivation, engagement and learning enjoyment, while reduces learners' nervousness and discomfort.

As the above review suggests, the incorporation of technology in language learning can play an important role in L2 development success by influencing L2 learners' individual characteristics such as motivation, autonomy and self-efficacy. In fact, to the best of our knowledge, little is known about how technology-based out of class activities can influence L2 learners' individual factors reviewed earlier. To address this gap in previous research, the present study pursues two important goals. First, it investigates which technology-based out of class language learning activities (TBOCLLAs) are more commonly used by Iranian EFL learners. Second, the current study, investigates the relationship between the use of TBOCLLAs by EFL learners and a number of individual differences including motivation, self-efficacy, and autonomy. To this end, the following research questions were formulated:

1. What technology-based activities are more commonly used by Iranian EFL learners outside the language classroom?
2. Is there any statistically significant relationship between the use of TBOCLLAs and Iranian EFL learners' motivation levels?
3. Is there any statistically significant relationship between the use of TBOCLLAs and Iranian EFL learners' autonomy?
4. Is there any statistically significant relationship between the use of TBOCLLAs and Iranian EFL learners' self-efficacy?
5. Which of these factors is more related to and better predict Iranian EFL learners' technology-based out of class language learning activities?

4. Methods and procedures

The present exploratory research made use of a number of questionnaires to collect the data and then were analyzed to find answers to the research questions. Since four different close-ended questionnaires were utilized in this study, the researcher employed a quantitative approach in which after data collection, the numerical data were analyzed in order to determine the frequency of TBOCLLAs and to explore the relationships between the main variables of this study, including technology-based out-of-class language learning activities, motivation, learners' autonomy level and self-efficacy.

4.1. Participants

A total of 100 Iranian EFL learners studying at masters-level in the field of language teaching from Azad University of Shiraz took part in this study using the convenient sampling method. Their proficiency level ranged from upper-intermediate to advanced. Their current academic level determined the proficiency level of the students. All participants were adult native speakers of Persian. Their ages ranged from 22 to 35. Both male and female students were included in this study.

4.2. Instruments

This study employed four close-ended questionnaires. These instruments are explained in detail below:

4.2.1. Technology-based Out-of-Class Language Learning Activities Questionnaire (TBOCLLAsQ). The authors of the current study developed this Questionnaire and it consists of 18 five-point Likert-scale questions which take into consideration the new wave of technological activities that could be used for out-of-class language learning and through this, the researchers have tried to fill the gap that currently exists in the literature concerning technology based out-of-class language learning activities. This instrument adopted some of its items from a related part of English Learning Activities Questionnaire (ELAQ) developed by Hyland (2004). The researchers utilized the above-mentioned questionnaire as a guideline for constructing the new questionnaire for the purpose of the present study (see Appendix A). Although the construct validity of this questionnaire was not empirically checked via factor analysis, with regard to the content, attempts were made to maximize the validity of the questionnaire by including most relevant items which are related to the recent out of class technology-based activities. Moreover, the reliability of the TBOCLLAsQ was assessed via Cronbach's alpha which turned out to be .875.

4.2.2. English Learning Motivation Questionnaire (ELMQ). This 21-item six-point Likert scale questionnaire was adapted from Taguchi, Magid, & Papi (2009) to target key motivational factors pertinent to the current research. These factors include integrativeness, instrumentality, attitudes toward L2 speakers/community, and two criterion measures, namely language choice preference and the learners' intended learning effort. Some of the items of the original questionnaire were removed because they were redundant and less related to the objectives of the present study. The reliability of the original questionnaire had been estimated using Cronbach's alpha and was .78 as reported by Taguchi *et al.* (2009). The reliability of the revised questionnaire used in the current study based on the obtained results was estimated via Cronbach's alpha. The results indicated .90 reliability (see Appendix B).

4.2.3. Learner Autonomy Questionnaire (LAQ). This questionnaire was developed by Zhang and Li (2004) and was administered by them to see how autonomous the participants were in learning English as a foreign language. This inventory covers 11 questions in a Likert-scale form (see Appendix C). Zhang and Li developed the items on the basis of the learning strategies classified by Oxford (1990), Wenden (1998), and O'Malley and Chamot (1990). The

questionnaire had proved to have high content validity and high reliability and has been utilized by many researchers (e.g., Dafei 2007; Nematipour 2012).

4.2.4. The General Perceived Self-Efficacy Scale (GPSES). This questionnaire was originally developed by Jerusalem and Schwarz (1979). This instrument contained 20 items. In 1981, it was reduced to 10 items and subsequently adapted to 28 languages (Schwarzer & Jerusalem, 1995). The GPSES has been used in numerous research projects, where it typically yielded internal consistencies between alpha .75 and .91 (see Appendix D).

4.3. Data collection procedure

The researchers provided the participants with necessary explanations about the aims of the study and the nature of the variables to avoid any possible ambiguities. To make sure that the amount of data collected would be as high as possible, the participants answered the questionnaire items in the presence of the administrator. All students were asked to fill the four questionnaires in a single sitting which took them approximately 15 minutes. The researcher made sure that the identity of the respondents remained confidential, and their provided information was merely used for research purposes.

4.4. Data analysis

The gathered data were analyzed through both descriptive and inferential statistics using the Statistical Package for the Social Sciences (SPSS) software version 24. Frequency analysis was implemented to find out which TBOCLLAs are more common among Iranian EFL learners to be used outside the language classroom. Furthermore, Pearson Product Correlation Coefficients were estimated to investigate any significant relationship that could exist between TBOCLLAs and individual learner differences. Multiple regression was also employed to examine which individual factor is more predictive of TBOCLLAs.

5. Results

A quantitative approach via descriptive and inferential statistics was taken to analyze the data. The results are discussed in terms of statistical calculations and it includes the analyses and interpretation of data to provide direct answers to the research questions.

5.1. Frequency analysis for technology-based out-of-class language learning activities

Table 1 shows the learners' average score of technology-based language-learning activities based on a 5 point Likert scale carried out by English language learners outside the classrooms in descending order.

Table 1. The frequency of technology-based out-of-class language learning activities

Activity	Average score
I search in English through Google, Yahoo, Bing or similar search engines. (ITEM13)	4.1800
I use dictionaries or translators on computers or mobile devices. (ITEM10)	4.1400
I watch movies and TV series in English via satellite receivers or similar devices. (ITEM18)	4.1000
I join English groups and channels on WhatsApp, Telegram or similar applications. (ITEM5)	4.0500
I listen to English songs in MP3 format on computers or mobile devices. (ITEM16)	3.9500
I use Wikipedia and other online encyclopedias on computers or mobile devices. (ITEM6)	3.9200
I surf the Internet in English using computers or mobile devices. (ITEM1)	3.9000
I read e-books and e-magazines in English on computers or mobile devices. (ITEM3)	3.7200
I listen to the recorded voice of my teacher(s) after the class. (ITEM11)	3.5100
I use YouTube and similar video-sharing websites to watch videos online. (ITEM2)	3.4900
I listen to radios in English through computers or mobile devices. (ITEM14)	3.4700
I use English language learning software and apps on computers or mobile devices. (ITEM8)	3.4200
I read the news in English over the web on a computers or mobile devices. (ITEM4)	3.3500
I write in English to other English speakers via WhatsApp, Telegram or similar apps. (ITEM7)	3.1700
I write emails in English via computers or mobile devices. (ITEM17)	3.1400
I write in English language on Instagram, Facebook and similar apps. (ITEM15)	3.0500
I play games in English on computers or mobile devices. (ITEM9)	2.8700
I call native English speakers on Skype, WhatsApp, FaceTime or similar apps. (ITEM12)	2.4400

As is reported in Table 1, descriptive statistics shows us that the four most frequent activities conducted by English language learners outside the classroom are as follows: searching in English through the most popular search engines such as Google followed by using electronic dictionaries or translators in addition to watching movies and TV series as well as joining English groups on social media via portable devices. It is notable that speaking with native English speakers was the last item in Table 1. Furthermore, it is reported that out-of-class writing activities and playing games are not either that popular among the Iranian EFL learners. Table 2 presents the correlation coefficient between technology-based out-of-class activities and the individual learner differences including motivation, autonomy and self-efficacy.

5.2. Correlation between TBOCLLAs and Iranian EFL learners' individual differences

Table 2. Correlation between TBOCLLAs and Iranian EFL learners' individual differences

		TBOCAQ	ELMQ	LAQ	GPSES
TBOCLLAs	Pearson correlation	1	.667**	.638**	.589**
	Sig. (2-tailed)		.000	.000	.000
	N	100	100	100	100
Motivation	Pearson correlation	.667**	1	.536**	.489**
	Sig. (2-tailed)	.000		.000	.000
	N	100	100	100	100
Autonomy	Pearson correlation	.638**	.536**	1	.586**
	Sig. (2-tailed)	.000	.000		.000
	N	100	100	100	100
Self-efficacy	Pearson correlation	.589**	.489**	.586**	1
	Sig. (2-tailed)	.000	.000	.000	
	N	100	100	100	100

**. Correlation is significant at the 0.01 level (2-tailed).

As indicated in Table 2, the Pearson correlation coefficient between the use of TBOCLLAs and Iranian EFL learners' motivation is .667 ($p<.001$). Thus, it can be concluded that there is a strong positive and significant correlation between TBOCLLAs and Iranian EFL learners' motivation. In addition, the Pearson correlation coefficient between TBOCLLAs and autonomy is .638 ($p<.001$). Thus, it can be concluded that there is a strong positive and significant correlation between TBOCLLAs and Iranian EFL learners' autonomy. The last variable, which was investigated in the present study, was learners' self-efficacy. According to the table, the Pearson correlation coefficient between TBOCLLAs and self-efficacy is .589 ($p<.001$). Thus, it can be inferred that there is also a strong positive and significant correlation between TBOCLLAs and Iranian EFL learners' self-efficacy. After estimating the relationship between out-of-class activities and individual factors, it is important to see which of these individual factors is more associated with and more predictive of out-of-class activities. Therefore, multiple regression was performed. Table 3 presents the results.

5.3. Multiple regression analysis predicting Iranian EFL learners' technology-based out-of-class language learning activities

Table 3. Multiple regression analysis predicting Iranian EFL learners' technology-based out-of-class language learning activities

	Unstandardized coefficients		Standardized coefficients		
Model	**B**	**Std. error**	**Beta**	**t**	**Sig.**
ELMQ	.367	.073	.402	4.990	.000
LAQ	.276	.082	.292	3.371	.001
GPSES	.315	.119	.221	2.637	.010

a. Dependent Variable: TBOCLLAsQ

As shown in Table 3, multiple regression results suggest that learners' motivation, autonomy and, self-efficacy were all significantly contributing to the Iranian EFL learners' technology-based out-of-class language learning activities. Among the mentioned individual factors, motivation had the highest predictive value for carrying out TBOCLLAs. Nevertheless, among self-efficacy and autonomy, the latter could better predict the frequency of Iranian learners' technology-based out of class activities.

6. Discussion

Descriptive statistics in this study showed us once again that the most frequent tech-based activities conducted by English language learners outside the classrooms are to a great extent associated with receptive skills, and this is a trend which has been taking place since the dawn of broadcasting technologies. As suggested by Hyland 2004, there is also another reason for learners' propensity towards more or less passive or receptive activities, and that is believed to be individual and social/political factors which are bound to language use in a particular culture.

Based on the results of this study, receptive TBOCLLAs are more commonly chosen by learners. However, it is the role of teachers to encourage and advise learners to engage in more productive activities such as using new mobile applications and computer programs to establish L2 communication in oral and written forms and assist them to bring the L2 native speakers within the reach of their students via the Internet because a face to face contact with L2 native speakers is next to impossible for most of Iranian EFL students who live inside Iran. It is claimed that unless the proper technical information is learnt beforehand, learners will become inclined towards receptive activities and avoid interpersonal ones, including the use of social media for language learning because they do not deem it a natural and authentic learning method. (Lai, Hu & Lyu 2018).

Findings of this study are consistent with those of other previous studies. For instance, Alyaz (2016) acknowledged that the top three extramural language learning activities which are done through smartphones, tablets and PCs incorporate using dictionaries, Listening (Radio broadcastings, music, etc.) and Watching movies (TV channels, Videocasting) which are considered as passive language learning activities. The inclination of the participants

towards utilizing receptive skills over the productive ones is also echoed in other studies (e.g., Hyland, 2004; Pearson 2004; Bailey, 2011; Ihsan, 2012). The findings of this study were in alignment with the similar line of research.

According to the findings, there is a significant and positive relationship between TBOCLLAs and the chosen individual factors of the current study (i.e., motivation, autonomy and self-efficacy) and these findings are too in agreement with the prior studies. Technology integration with the pedagogic process has proved to have a great potential to increase language-learning motivation. For example, Ushida (2005) investigated the role of students' attitudes and motivation in second language learning in online language courses and found that students' motivation and attitudes toward L2 study were relatively positive and stable during the online course which created a unique class culture and positively affected students' motivation and attitudes toward studying L2. Golonka *et al.* (2014) have also attested to the fact that "technological innovations can increase learner interest and motivation; provide students with increased access to target language (TL) input, interaction opportunities, and feedback; and provide instructors with an efficient means for organizing course content and interacting with multiple students" (p. 70). Moreover, Gürkan (2018) tested the usefulness of a vocabulary learning app (VocaStyle) and concluded that learners often find it effective, motivating and useful, the findings also suggest that video and graphics favored among learners over other types of content. Other researchers have also found a meaningful increase in English language learners' motivation because of the use of technological devices and the Internet which are related to the attractiveness of technological devices (Nunan & Richards, 2015).

The results reported in this study indicated a statistically significant relationship between TBOCLLAs and Iranian EFL learners' autonomy. Out-of-class language learning serves as a platform in which students can fully develop their learner autonomy. A traditional Iranian classroom is often dominated by its teacher, hence only through out-of-class learning activities, students may have the chance to take charge of their learning process and therefore to foster their capacity for autonomy. Benson (2007) also acknowledges out-of-class learning as an application of learner autonomy, that is to say, learner autonomy is closely related to out-of-class learning, and out-of-class learning serves as a platform in which students could fully develop their learner autonomy. Moreover, the positive effect of using computer and mobile technologies on English language learners' autonomy, is recognized by other researchers (e.g., Kim, Ruecker & Kim 2019; Rahman, 2013; Meri, 2012).

Last but not least, it was concluded in this study that there was a strong and statistically significant relationship between TBOCLLAs and learner's self-efficacy. Self-efficacy helps language learners to adapt and deal with unfamiliar online out-of-class situations, even when they have little to no experience and studies have shown that self-efficacy is strongly linked with Web-based learning capability (e.g., Tsai & Tsai, 2003; Bolt, Killough, & Koh, 2001).

7. Conclusions

Based on the results of the present study regarding the frequency of TBOCLLAs carried out by English language learners, it was concluded that receptive activities were relatively more frequent than productive ones. Nevertheless, as technology moves forward at a rapid pace, these findings might be subject to change in the future. Furthermore, the results indicated that there was a strong positive correlation between TBOCLLAs and Iranian EFL learners'

motivation. Moreover, it was concluded that there was a strong and positive correlation between technology-based out-of-class language learning activities and Iranian EFL learners' autonomy. In the same vein, it was deduced that there was a moderate to strong and statically significant correlation between technology-based out-of-class language learning activities and Iranian EFL learners' self-efficacy. Finally yet importantly, the research findings pointed out that learners' motivation, autonomy, and self-efficacy were all significantly contributing to the Iranian EFL learners' technology-based out-of-class language learning activities. However, among the mentioned individual factors, motivation had the highest predictive value and among self-efficacy and autonomy, the latter could better predict the frequency of activities. One limitation of the current study was its pure quantitative approach, in other words the gathered data was only based on self-report questionnaires. Another limitation was that the gathered data was based on a localized population in an academic setting and it was bound to local EFL learners. Therefore, the results of this study should be interpreted with care.

8. Implications

In today's world, more effort needs to be made to create and increase opportunities for student engagement with L2 beyond the conventional borders of a classroom via implementation of new technologies. Based on the results of this study, receptive TBOCLLAs are more commonly chosen by learners. However, it is the role of teachers to encourage and advise learners to engage in more productive activities such as using new mobile applications and computer programs to establish L2 communication in oral and written forms as this strategy might help them to overcome the fear of being judged by others. Teachers should also assist them to bring the L2 native speakers within reach of their students via the Internet because a face to face contact with L2 native speakers is next to impossible for most of Iranian EFL students who live inside Iran.

The results of this study would be significant to all those who play a role in the field of EFL such as students, teachers, education authorities, institute managers, especially distance learning institutes and material developers for distance language learning. As the numbers of institutions that provide quality distanced language learning is growing, the results of this research should be suitable enough to offer useful insights to those institutions that are currently planning, delivering, evaluating, or improving out-of-class educational programs.

9. Suggestions for further research

Future research on learners' TBOCLLAs may focus on the following topics:

Replication of the current study in a different educational setting or with learners who have a different proficiency level. Moreover, future investigations can be done using larger samples that are more varied regarding race, ethnicity, and geography. Finally, the current study investigated the relationship of only three individual factors with technology based out of class activities while there are plenty of other factors such as age, gender, digital literacy, field dependence/independence, extraversion /introversion and anxiety, which were not investigated in this study. Therefore, future studies can replicate the present research while taking into consideration other individual factors.

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Appendix A

Technology-based Out-of-Class Language Learning Activities Questionnaire (TBOCLLAsQ)

	Please read the following statements and choose the number that best matches your opinion:	**Never**	**Rarely**	**Sometimes**	**Often**	**Always**
1	I surf the Internet in English using computers or mobile devices.	1	2	3	4	5
2	I use YouTube and similar video-sharing websites to watch videos online.	1	2	3	4	5
3	I read e-books and e-magazines in English on computers or mobile devices.	1	2	3	4	5
4	I read the news in English over the web on computers or mobile devices.	1	2	3	4	5
5	I join English groups and channels on WhatsApp, Telegram or similar applications.	1	2	3	4	5
6	I use Wikipedia and other online encyclopedias on computers or mobile devices.	1	2	3	4	5
7	I write in English to other English speakers via WhatsApp, Telegram or similar apps.	1	2	3	4	5
8	I use English language learning software and apps on computers or mobile devices.	1	2	3	4	5
9	I play games in English on computers or mobile devices.	1	2	3	4	5
10	I use dictionaries or translators on computers or mobile devices.	1	2	3	4	5
11	I listen to the recorded voice of my teacher(s) after the class.	1	2	3	4	5
12	I call native English speakers on Skype, WhatsApp, FaceTime or similar apps.	1	2	3	4	5
13	I search in English through Google, Yahoo, Bing or similar search engines.	1	2	3	4	5
14	I listen to radios in English through computers or mobile devices.	1	2	3	4	5
15	I write in English language on Instagram, Facebook and similar apps.	1	2	3	4	5
16	I listen to English songs in MP3 format on computers or mobile devices.	1	2	3	4	5
17	I write emails in English via computers or mobile devices.	1	2	3	4	5
18	I watch movies and TV series in English via satellite receivers or similar devices.	1	2	3	4	5

Appendix B

English Learning Motivation Questionnaire (ELMQ)

	Please read the following statements and choose the number that best matches your opinion:	**Strongly disagree**	**Disagree**	**Slightly disagree**	**Slightly agree**	**Agree**	**Strongly agree**
1	I really enjoy learning English.	1	2	3	4	5	6
2	I would like to spend lots of time studying English.	1	2	3	4	5	6
3	Studying English is important to me because English proficiency is necessary for promotion in the future.	1	2	3	4	5	6
4	I like the music of English speaking countries (e.g. pop music).	1	2	3	4	5	6
5	It will have a negative impact on my life if I don't learn English.	1	2	3	4	5	6
6	I study English in order to keep updated and informed of recent news of the world.	1	2	3	4	5	6
7	I imagine myself as someone who is able to speak English.	1	2	3	4	5	6
8	I like to become similar to the people who speak English.	1	2	3	4	5	6
9	I like English movies and TV programmes.	1	2	3	4	5	6
10	Studying English is important to me in order to gain the approval of my peers/teachers/family/boss.	1	2	3	4	5	6
11	If an English course was offered in the future, I would like to take it.	1	2	3	4	5	6
12	I like the people who live in English-speaking countries.	1	2	3	4	5	6
13	I would like to study English even if I were not required.	1	2	3	4	5	6
14	I like English magazines, newspapers, or books.	1	2	3	4	5	6
15	Studying English is important to me because other people will respect me more if I have knowledge of English.	1	2	3	4	5	6
16	I can imagine a situation where I am speaking English with foreigners.	1	2	3	4	5	6
17	My parents encourage me to study English in my free time.	1	2	3	4	5	6
18	I can imagine myself writing English e-mails fluently.	1	2	3	4	5	6
19	Studying English is important to me because I am planning to study abroad.	1	2	3	4	5	6
20	I have to learn English because without passing the English course I cannot get my degree.	1	2	3	4	5	6
21	I like meeting people from English-speaking countries.	1	2	3	4	5	6

Appendix C

Learner Autonomy Questionnaire (LAQ)

	Please read the following statements and choose the number that best matches your opinion:	Never	Rarely	Sometimes	Often	Always
1	I think I have the ability to learn English well.	1	2	3	4	5
2	I make good use of my free time in English study.	1	2	3	4	5
3	I preview before the class.	1	2	3	4	5
4	I find I can finish my task in time.	1	2	3	4	5
5	I keep a record of my study, such as keeping a diary, writing review etc.	1	2	3	4	5
6	I make self-exam with the exam papers chosen by myself.	1	2	3	4	5
7	I reward myself when I progress (e.g., I go shopping, play games, etc.)	1	2	3	4	5
8	I attend out-of-class activities to practice and learn the language.	1	2	3	4	5
9	During the class, I try to catch chances to take part in activities such as pair/group discussion, role-play, etc.	1	2	3	4	5
10	I know my strengths and weaknesses in my English study.	1	2	3	4	5
11	I choose books, exercises that suit me, neither too difficult nor too easy.	1	2	3	4	5

Appendix D

The General Perceived Self-Efficacy Scale (GPSES)

	Please read the following statements and choose the number that best matches your opinion:	Not at all true	Hardly true	Moderately true	Exactly true
1	I can always manage to solve difficult problems if I try hard enough.	1	2	3	4
2	If someone opposes me, I can find the means and ways to get what I want.	1	2	3	4
3	I am certain that I can accomplish my goals.	1	2	3	4
4	I am confident that I could deal efficiently with unexpected events.	1	2	3	4
5	Thanks to my resourcefulness, I can handle unforeseen situations.	1	2	3	4
6	I can solve most problems if I invest the necessary effort.	1	2	3	4
7	I can remain calm when facing difficulties because I can rely on my coping abilities.	1	2	3	4
8	When I am confronted with a problem, I can find several solutions.	1	2	3	4
9	If I am in trouble, I can think of a good solution.	1	2	3	4
10	I can handle whatever comes my way.	1	2	3	4