Understanding the Characteristics of English Language Learners' Out-of-Class Language Learning through Digital Practices

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Abstract

This study aims to understand the extent to which English as a foreign language learners use technology for their autonomous language learning beyond the classroom. With a cross-sectional survey design approach, the study focuses on learner characteristics. It first investigates the existing language learner profiles of 512 English major university students concerning autonomous language learning and out-of-class technology engagement. Then, details regarding the characteristics of existing learner profiles in terms of language proficiency, daily technology use time, a variety of digital tool use and the most beneficial tools are outlined. Within this frame, cluster analyses suggested two clusters: more autonomously engaged with digital tools and less autonomously engaged with digital tools. The findings showed that more autonomously engaged students tend to have greater language-learning proficiency than the less autonomous group. The more autonomously engaged students also spent more time daily and used various digital tools in comparison to less autonomous technology users. While online websites and social media were the most frequently used digital tools for both groups, the use of podcasts, blogs and online language courses differed. According to the provided tool lists of learners, students benefited significantly from social media, online websites, dictionaries, and intelligent tutoring system applications (apps). Online games, YouTube, Instagram and other smartphone apps, which allow students to practice vocabulary and speak with foreigners, also had considerable influence on language development. The study findings provide insights for language teachers aiming to extend learners' in-class language-learning experiences beyond the confines of the classroom.

Keywords: autonomous language learning, learning through digital practices, out-of-class language learning, technology engagement

Following the rapid development of digital technology, the worldwide digital population now encompasses nearly 60% of the global population, with over 4.5 billion active users (Kemp, 2020). According to a recent report and statistics, the average time spent on the Internet is almost seven hours per day, mainly on social media, watching television, listening to streaming music and gaming. Among these activities, the use of social media is the most favored Internet activity, and 45% of the world population is on social media, spending a minimum of two hours each day. Almost all social media users visit social media sites via their smartphones. Millennials are the biggest users of social media among the generations (Kemp, 2020; Moshin, 2020). These statistics show that people are engaged with technology much more than before, for information seeking, content creation, playing games, broadcasting, communication, education, and pleasure, among other things. As a result, technology is undeniably an indispensable part of daily life. English language, with over two billion native and non-native speakers, serves as a communication tool by delimiting boundaries between people from different countries and creating an authentic virtual atmosphere (Ethnologue, 2019).

Unifying the potential of widespread use of digital technology and the importance of English in the globalized world, it is necessary to understand what goes on outside the classroom to meet the constantly changing needs of today's digital learners. Unlike the great importance of bridging inside and outside learning, the majority of applied linguistic research focuses on what transpires inside the classroom as well as classroom-based application, and there remains limited research concentrating on learning language beyond the classroom, specifically in digital settings (Chick, 2018; Lai, 2015, 2017; Reinders & Benson, 2017; Richards, 2015). Little attention has been given to how language learners bolster their language skills and what language learner profiles exist in learner-led informal settings (Gonulal, 2019).

This article focuses on English as a foreign language (EFL) learners' out-of-class language learning experiences through digital practices and reports on a survey study conducted with university students in Turkey. Specifically, it investigates the existing characteristics of English major language learners with a closer focus on their technology-mediated autonomous language learning experiences. The article firstly reviews relevant research for understanding language learners' out-of-class digital practices and then presents the study methodology and findings. Lastly, it discusses the findings regarding the emerging learner profiles and draws conclusions. Therefore, it expands our understanding of what language learners do beyond the confines of school to learn English in the digital era.

Literature Review

High proficiency of language achievement and development depends on learners' out-of-class engagement as well as in-class engagement (Benson, 2011; Chick & Ho, 2017; Dincer & Dariyemez, 2020; Lai, 2017; Lai et al., 2015; Richards, 2015). Although great strides have been made in understanding foreign language learners' out-of-class language learning practices and gains for language development in earlier studies (e.g., Benson, 2011; Hyland, 2004; Inozu et al., 2010; Murray & Kojima, 2007), less is known about what today's youth do to study language beyond the classroom in the digital era that exists today. Internet and digital technology have become ubiquitous and changed the traditional teaching routines of people all over the world (Larsen-Freeman & Anderson, 2013; Mazer et al., 2007). With a transition from traditional definitions of computer-assisted language learning (CALL) to more modern methods including mobile learning, the importance of digital tools and integration of technology into daily life has exponentially gained popularity in the language education domain (Reinders & White, 2016).

Learners' online informal language experience has great value for language development in the age of digital abundance (Chick, 2018). Recent research has emphasized that engagement in the prevalent digital practices for language learning not only plays a supporting role in language development for learners, but also a complementary role for in-class language learning (Alice & Ho, 2017; Lai, 2017; Lai et al., 2018; Nunan & Richard, 2015). Digital tools provide meaningful and authentic language-learning opportunities for learners and might serve as a panacea for learners who have no or limited change in exposure to authentic daily language in an out-of-school setting (Dincer & Dariyemez, 2020; Gonulal, 2019; Lai et al., 2016; Richards, 2015; Xodabande, 2018). Today, learner autonomy and technology-enhanced language learning have not been isolated from each other; they are together and interconnected (Reinders & White, 2016). To excel in language, learners should have an inner capacity to be aware of their needs and desire to track their progress (Alice & Ho, 2017). Despite its importance for language development, there is limited focus on technology-enhanced out-of-class language learning, and there is a recurrent call for more research into autonomous language learning through digital practices and learner characteristics (Chick, 2018; Dincer & Dariyemez, 2020; Gonulal, 2019; Lai, 2017; Lai et al., 2018; Reinders & Benson, 2017; Reinders & White, 2016).

There is a scarcity of literature about language learners' online informal language learning, and the connection between autonomous language learning and digital practices in the applied linguistics domain is not clear. Via interviews, Lai et al. (2016) elicited the perception matches between language teachers and students regarding teacher involvement in fostering autonomous language learning with technology beyond the classroom. They found that there are mismatches between perceptions and teachers, although teachers have minimal responsibility for the autonomous language development of students and play a passive role in learners' out-of-class use of technology for language learning as they overestimate students' skills. In later research, Chick (2018) provided research agendas on autonomous language learning beyond the classroom and digital practices by way of a qualitative ethnographic approach. Based on the model of Benson (2011) for searching out-of-class language learning, she mapped her language-learning experience on Duolingo (an intelligent tutoring system). Chick found that, in her learning experience, there exist environmental factors beyond her control and it is hard to turn a leisure activity into recreational learning. Duolingo provides a structured pedagogy for learning and goes beyond the structural lessons. Although the locus of control is voluntary participation in the starting point, such digital practices restrict decisions on learning at some points.

Connecting various studies (e.g., Benson, 2011; Richards, 2015), Chick concluded that autonomous language-learning experience is a useful indicator of successful language learning, and digital practices might be tools for understanding language learning as a whole. Emphasizing the use of any digital tool for various purposes, Lai and colleagues (2018) recently identified three types of technological experiences of language learners engaged outside the classroom using multiple data collection techniques. These types are instruction-oriented (i.e., conscious and intentional information-seeking process for expanding knowledge and language development), entertainment and information-oriented (i.e., not fully unintentional and a disorganized method of obtaining and sharing information for daily life needs and personal needs), and social-oriented (i.e., intentional use of social media to interact and communicate with English speakers). These distinct learner profiles are important for educators and researchers to understand language learners' out-of-class experiences.

In another study, Xodabande (2018) researched 114 Iranian EFL learners' preferences in various digital technologies, in a context where people have some online restrictions and censorship. Xodabande found that, despite the restrictions, EFL learners are highly engaged with technology for foreign language, whereby electronic dictionaries, Internet sites and films are the most favored digital tools. Gender was also found to be a significant factor. While male students engage in online games to facilitate learning, female students are more inclined to listen to English music. In more recent research, Kuznetsova and Soomro (2019) surveyed 137 foreign language learners' out-of-class Web 2.0 practices for learning various languages, including English. They found that video sharing websites and social networking sites are the most widely used digital technologies and male students' digital practices are significantly more frequent than females, verifying some earlier research (Cai et al., 2017; Xodabande, 2018).

Despite significant progress in understanding the nature of language learners beyond the classroom, the literature has been invaded by the umbrella term "out-of-class language learning", which comprises all activities and includes the technology. The extant research does not provide a clear picture of language learners' digital practices without teacher guidance and direction. There is a need for research on autonomous language learning with digital practices beyond the classroom. One certain aspect of out-of-class language learning with technology is that "there is a great range of diversity in environments, intentionality, interest, structure, and duration" (Chick, 2018, p.76).

Improving understanding of characteristics of language learners regarding autonomy and technology engagement and investigating their engagement in the digital practices for language learning might serve as a master key to unlock innovative techniques for classroom pedagogy and bind formal to informal learning (Chick, 2018; Kuzetsova & Soomro, 2019; Lai & Gu, 2011; Lai et al., 2015). Considering the affordances of language engagement through digital practices beyond the classroom and the scarce research on autonomous language learning through digital practices, there is much yet to be discovered on specific language learners' distinct characteristics in this unexplored field of research. By way of a survey approach, this study specifically focuses on learning English beyond the classroom with digital tools and students' own initiatives, and aims to understand to what extent EFL learners use technological tools for their self-directed language learning beyond the classroom. With a particular focus on language learners' characteristics, the following research questions guided the study:

1. What different language learner profiles exist among English language learners in terms of autonomous language learning and out-of-class technology engagement?
2. What are the characteristics of language learner profiles in terms of language proficiency, daily technology use, and digital tools used?

Theoretical Framework

This survey research was grounded on the main tenets of modern motivation theory, self-determination theory [SDT] (Deci & Ryan, 1985; Ryan & Deci, 2017). SDT provides an understanding of the psychological and social foundations of autonomous learning in life (Lou et al., 2018). Briefly, it suggests that people have innate psychological needs (i.e., autonomy, competence and relatedness), and these universal needs are met through people's interactions in a social context (Deci & Ryan, 1985; Ryan & Deci, 2017). Within language education, the satisfaction of the needs is crucial for motivated engagement, and results in more autonomous language learning and engagement (Noels et al., 2019).

Despite the increased research on what happens in the classroom, limited research focus has been placed on understanding what happens beyond the classroom, specifically language learning through digital practices within the SDT framework. Connecting the SDT and the recent perspective on the technological experiences of language learners (Lai et al., 2018), this study hypothesizes that autonomous language learning is positively linked to technology engagement in language learning. Accordingly, the students who feel more autonomy in language learning are prone to be more engaged with language learning beyond the classroom through digital tools. Then, investigating the learner profiles will shed light on future research agendas on autonomous language learning through digital practices in the language-learning domain.

Method

Research Design

A cross-sectional survey design was adopted to investigate the nature of language learners' out-of-class language learning experiences. According to Creswell (2012), this is the most popular form of survey design in educational research. The researcher collects data to make inferences about a particular population of interest at a given point and thereby takes snapshots of the population (Creswell, 2012; Hall, 2008). With a non-experimental approach, this study focused on emerging profiles of English language learners' out-of-class language learning through digital practices. It investigated their profiles from various perspectives such as learners' perceived language proficiency, daily time spent for language learning, and variety of digital tools in language learning.

Study Context

The study was conducted with English major students studying in the English Language Teaching (ELT) and English Language Literature (ELL) departments of three state universities in Turkey. The students who graduate from these departments with a BA diploma and certain training certificates might work as English teachers in state schools after taking teacher placement tests. It was expected that these students' experiences with digital tools would be different from the students in the non-English major departments where mother tongue is the medium language.

Participants

512 university-level language learners (n = 362; 70.7% female) whose ages ranged from 17 to 32 (M = 20.59; SD = 2.46) participated in the study. They were enrolled in the two English majors related to learning and teaching English at a tertiary level in Turkey (ELT = 304; ELL = 208). Students were from various classes concerning their majors, and a majority of them were in the first year of their major (n = 200; 39.1%). Their overall perceived language proficiency from receptive (reading and listening) and productive skills (writing and speaking) changed from A2 to C2 in accordance with six levels (A1, A2, B1, B2, C1, C2) of the Common European Framework Proficiency Matrix (n = 185; mostly B2, 36.1%).

Instruments

A survey form including demographic details (i.e., gender, major, and year in the university, perceived level of proficiency), a language learning through digital practices questionnaire, psychometric scales of learner autonomy and out-of-class technology engagement were used as the data collection instruments.

Language learning through digital practices. The questionnaire consisted of three questions regarding students' digital practices. The first question was about daily time spent using technology, from the least (one hour) to high (four hours). The second question was about digital tools students might use while learning on their own. The students chose what digital tool/s they used to learn a foreign language on their own from the given 10 most cited digital tools in the relevant literature (e.g., Benson, 2011; Lai, 2017; Richards, 2015). The third question was in the open-ended format, about the most beneficial digital tool/s used with regularity and their reasons of preferences.

Learner autonomy. The scale was adapted from Nakata (2011) to measure the students' autonomous language-learning experiences. It was a five-point Likert scale from 1 (Strongly Disagree) to 5 (Strongly Agree). It had eight items concerning out-of-class learning (e.g., I decide what to learn outside the classroom; $\alpha = .77$). Higher mean scores from the items indicate higher agreement and autonomy levels.

Out-of-class technology engagement. The scale (Lai et al., 2018) assessed the degree to which learners engage in language learning by using digital tools with a five-point Likert scale from 1 (Strongly Disagree) to 5 (Strongly Agree). The scale started with the prompt "I use digital tools outside the classroom, mainly …" and was followed by 11 items. The scale had three dimensions: instruction-oriented technological experience had three items (e.g., to help me memorize the vocabulary and grammar; $\alpha = .70$); the entertainment- and information-oriented experience had five items (e.g., to use the language to go after personal interest; $\alpha = .74$); and the social-oriented technological experience dimension had three items (e.g., to connect with native speakers or other learners of the foreign language; $\alpha = .80$). In each dimension, a higher mean indicated stronger agreement and engagement.

Data Collection and Analysis

The data were collected using a paper-based survey in spring 2019. After departmental approval was obtained for data collection, the students were invited to participate in the study. The students were informed about the purpose of the study and instructed about the meaning of learning English with digital tools with examples by the collaborators. They were also informed about anonymity and encouraged to answer the open-ended question. It took approximately 15 minutes to complete the survey.

To answer the research questions, first, the surveys were screened, and those with a significant amount of missing data (e.g., not completing one of the scales) and outliers (i.e., strongly agreeing with all items or strongly disagreeing with all items) were excluded (25 out of 537). After the reliability analysis, a cluster analysis followed, allowing researchers to extract learners' out-of-class technology profiles. The analysis enabled the researcher "to create a new categorical variable that minimizes the amount of variation within categories" (Staples & Biber, 2015, p. 243). Following the steps of the Staples and Biber (2015) analysis, a hierarchical cluster analysis was run, with the Z-scores of two main variables (i.e., out-of-class technology experience and autonomous language learning). The analysis suggested a two-cluster solution. Based on the determined language learner profiles, both quantitative and qualitative data from the survey were descriptively analyzed. For the quantitative data analysis, the SPSS 22.0 packet program was used. In the qualitative data analysis, NVivo software version 12 was used to review word frequencies and to produce a words cloud. In the presentation of the quantitative findings, descriptive tables were used. For the qualitative data, students' excerpts from the open-ended questions were provided with the capital letter of the cluster and the student data identification number (i.e., M123).

Findings

Learner Profiles in Out-of-Class Language Learning Through Digital Practices

The first research question concerned existing language learner profiles in terms of autonomous language learning and out-of-class technology engagement. The hierarchical cluster analysis suggested a two-cluster solution (Cluster 1, n = 330; Cluster 2, n = 182). The findings are presented in Table 1.

Table 1: Comparison of learner profiles in terms of autonomous language learning and out-of-class technology engagement

Main variables	Sub-variables	Cluster 1		Cluster 2	
		M	***SD***	***M***	***SD***
Autonomous language learning	Learner autonomy	4.12	.44	3.40	.57
Out-of-class technology engagement	Instruction-oriented	4.11	.50	3.38	.83
	Entertainment and information-oriented	4.25	.44	3.44	.63
	Social-oriented	4.11	.71	2.99	.84

The results indicated that the students in Cluster 1 highly agreed with the scale items and were thereby named 'More autonomously engaged with digital tools' ($M \geq 4.00$ = Agree). The students in Cluster 2 had a moderate level of agreement and were named 'Less autonomously engaged with digital tools' ($M < 4.00$ = Moderately Agree).

After the determination of the clusters, the demographic characteristics of the groups were analyzed. According to the descriptive statistics, both clusters had similar demographic characteristics, such as age (Cluster 1: M_{age} = 20.67, SD = 2.42; Cluster 2: M_{age} = 20.43; SD = 2.53) and department distribution.

Two groups of descriptive findings are presented in Table 2. According to Table 2, most of the participants in both groups were females (*Min.* = 64.3%), from the ELT department (*Min.* = 57.1%), and first year of study (*Min*. = 39.4%).

Table 2: Demographics of the clusters

Demographics		More autonomously engaged (n = 330)		Less autonomously engaged (n = 182)	
		f	***%***	***f***	***%***
Gender	Male	85	25.8	65	35.7
	Female	245	74.2	117	64.3
Major	ELT	200	60.6	104	57.1
	ELL	130	39.4	78	42.9
Year in university	Preparatory	55	16.7	40	22.0
	First year	122	37.0	78	42.9
	Second year	43	13.0	16	8.8
	Third year	39	11.8	21	11.5
	Fourth year	71	21.5	27	14.8

In sum, there were two types of learner profiles in terms of digital practices and autonomous language learning beyond the classroom. The clusters had similar demographic details regarding frequencies in the variables (i.e., gender, major and year at the university).

Characteristics of language learner profiles

The second research question focused on understanding the nature of existing language learner profiles in terms of language proficiency, daily time spent, variety of digital tools used and most beneficial tools.

Language proficiency. First, the clusters' perceived language proficiency levels were compared in terms of receptive and productive language skills. Table 3 indicates the frequencies and percentages in terms of perceived language proficiency levels in receptive skills: reading and listening.

Table 3: Comparison of clusters in terms of receptive skills

Receptive skills		**More autonomously engaged (*n* = 319)**		**Less autonomously engaged (*n* = 181)**	
		f	***%***	***f***	***%***
Reading	A1 (Beginner)	0	0.0	0	0.0
	A2 (Elementary)	8	2.5	10	5.5
	B1 (Intermediate)	32	10.0	44	24.3
	B2 (Upper Intermediate)	111	34.8	78	43.1
	C1 (Advanced)	108	33.9	39	21.5
	C2 (Proficiency)	60	18.8	10	5.5
Listening	A1 (Beginner)	3	0.9	13	7.2
	A2 (Elementary)	33	10.3	33	18.2
	B1 (Intermediate)	72	22.6	42	23.2
	B2 (Upper Intermediate)	91	28.5	48	26.5
	C1 (Advanced)	76	23.8	37	20.4
	C2 (Proficiency)	44	13.8	8	4.4

According to Table 3, students who are more autonomously engaged with digital tools have higher perceived receptive language proficiency levels than those less autonomously engaged with digital tools (i.e., reading and speaking = B2 and C1). Over half of the students in both groups (i.e., Min. = 51%) perceived their levels to be over level B1.

Students' comparisons in terms of perceived levels in productive skills are presented in Table 4, which indicates the frequencies and percentages of the productive skills: writing and speaking.

Table 4: Comparison of clusters in terms of productive skills

Productive skills		More autonomously engaged (*n* = 319)		Less autonomously engaged (*n* = 181)	
		f	%	*f*	%
Writing	A1 (Beginner)	0	0.0	0	0.0
	A2 (Elementary)	28	8.8	28	15.5
	B1 (Intermediate)	73	23.0	56	30.9
	B2 (Upper Intermediate)	98	30.8	54	29.8
	C1 (Advanced)	88	27.7	38	21.0
	C2 (Proficiency)	31	9.7	5	2.8
Speaking	A1 (Beginner)	12	3.8	14	7.7
	A2 (Elementary)	34	10.7	52	28.7
	B1 (Intermediate)	102	32.0	46	25.4
	B2 (Upper Intermediate)	74	23.2	38	21.0
	C1 (Advanced)	71	22.3	25	13.8
	C2 (Proficiency)	26	8.2	6	3.3

In parallel to the findings of the receptive skills, the students in the more autonomously engaged with digital tools cluster showed higher perceived proficiency levels in productive skills than the students in the second group (i.e., more autonomously engaged = B2 and C1). These students had lower proficiency in writing skills in comparison to speaking skills (more autonomously engaged = $Max._{writing}$ 30.8% in B2 level; more autonomously engaged = $Max._{speaking}$ = 32.0% in B1 level). While the highest majority of the more autonomously engaged students perceived their speaking skills at B1 (i.e., more autonomously engaged = speaking 32.0%), the students in the less autonomously engaged with digital tools group perceived themselves at level A2 (i.e., less autonomously engaged = speaking 28.7%).

Daily time spent. Second, the clusters were compared in terms of their daily time spent using digital tools in language learning, and findings are presented in Table 5.

Table 5: Comparison of clusters in terms of daily time spent

Daily time spent	More autonomously engaged (*n* = 330)		Less autonomously engaged (*n* = 181)	
	f	%	*f*	%
Min. 1 hour	94	28.5	82	45.3
Min. 2 hours	140	42.4	70	38.7
Min. 3 hours	62	18.4	25	13.8
Min. 4 hours	34	10.3	4	2.2

The table shows that the students differed in terms of daily time spent on digital tools. According to the table, the majority of students in the more autonomously engaged with digital tools group spent a minimum of one to two hours (i.e., 70.9%). The great majority of students in the less autonomously engaged group also spent a minimum of one to two hours learning English digitally on a daily basis (i.e., 84.0%). Further, the table shows that students in the more autonomously engaged group spent much more time on digital language learning with a minimum of two hours than the less autonomously engaged group.

Digital tool use. Fourth, the clusters were compared in terms of the variety of digital tools that learners use, as shown in Table 6.

Table 6: Comparison of clusters in terms of tool variety

Tool variety	More autonomously engaged (*n* = 330)		Less autonomously engaged (*n* = 182)	
	f	%	*f*	%
1 tool	3	0.9	6	3.3
2 tools	26	7.9	47	25.8
3 tools	59	17.9	37	20.3
4 tools	64	19.4	41	22.5
5 tools	63	19.1	27	14.8
6 tools	48	14.5	14	7.7
7 tools	40	12.1	8	4.4
8 tools	16	4.8	2	1.1
9 tools	8	2.4	0	0.0
10 tools	3	0.9	0	0.0

Table 6 shows that the students in the more autonomously engaged group differ more in terms of digital tool variety than those less autonomously engaged. While the majority of students in the more autonomously engaged group use a minimum of five to 10 different digital tools (i.e., 73.2%), the majority of students in the less autonomously engaged group use one to four digital tools for language learning (i.e., 71.9%).

In addition to the digital tool variety comparison, students' preferences for most frequently used digital tools were determined. The comparison of clusters with regards to the tool frequency is presented in Table 7.

Table 7: Comparison of clusters in terms of tool use frequency

Tools	More autonomously engaged (*n* = 330)		Tools	Less autonomously engaged (*n* = 182)	
	f	%		*f*	%
1. Social media	297	90.0	1. Social media	156	85.7
2. Dictionaries	285	86.4	2. Dictionaries	151	83.0
3. Websites	223	67.6	3. Websites	91	50.0
4. Grammar & spelling checkers	169	51.2	4. Grammar & spelling checkers	64	35.2
5. Intelligent tutoring systems	159	48.2	5. Intelligent tutoring systems	52	28.6
6. Blogs	118	35.8	6. Online courses	39	21.4
7. Forums	100	30.3	7. Forums	35	19.2
8. Podcasts	93	28.2	8. Blogs	29	15.9
9. Online courses	88	26.7	9. Automatic speech recognition	28	15.4
10. Automatic speech recognition	69	20.9	10. Podcasts	25	13.7

While the first five tools listed in the table were the most commonly used digital tools by both groups, the remaining five tools differed between the groups. While social media, online dictionaries and online websites for language learning were the most frequently used digital tools for both groups, the use of podcasts and online language courses differed.

Most benefited digital tools. Fifth, students' answers to the open-ended question about the most beneficial digital tools for learning English were descriptively analyzed ($N = 307$). While answering the question, some of the students listed more than one digital tool as most beneficial, thereby making frequencies by tool higher than the number of participants. It should also be noted that two extra tools emerged from the data: online games and smartphone apps, allowing for speaking with native speakers for a fee. The findings are shown in Table 8.

Table 8: Comparison of clusters in terms of most beneficial digital tools

Tools	**More autonomously engaged (n = 215)**		**Tools**	**Less autonomously engaged (n = 92)**	
	f	***%***		***f***	***%***
1.Social media	89	41.4	1. Social media	32	34.8
2.Websites	50	23.3	2. Websites	23	25.0
3.Dictionaries	49	21.4	3. Dictionaries	20	21.7
4. Intelligent tutoring systems	42	19.5	4. Intelligent tutoring systems	14	15.2
5. Online courses	18	8.4	5. Online courses	5	5.4
6. Online games	13	6.1	6. Podcasts	5	5.4
7. Grammar & spelling checkers	9	4.2	7. Forums	4	4.4
8. Blogs	7	3.3	8. Blogs	2	2.2
9. Forums	6	2.8	9. Grammar & spelling checkers	2	2.2
10. Podcasts	5	2.3	10. Online games	2	2.2
11. Apps-Speaking	5	2.3	11. Apps-Speaking	1	1.1
12. Automatic speech recognition	2	0.9	12. Automatic speech recognition	0	0.0

Note. Values might not end in 100% due to rounding.

According to the most beneficial tool lists, students' preferences provided similar findings to the previous digital tool frequency list table. Social media, online websites, dictionaries and intelligent tutoring system apps were the most beneficial tools for all students. Different from the tool lists, some students indicated the benefits of online games and smartphone apps, which allow them to speak with native English speakers and people who use English for communication.

In addition to frequencies, to assess specific tools among all students' answers, a word cloud was generated, with a restriction of words with a minimum length of five letters and the 30 most frequently used words with stemmed words. The results are shown in Figure 1.

Figure 1: Word cloud

The word cloud formed from 307 students' open-ended responses indicated that, in addition to some broad tools stated, students also use specific tools. These tools are YouTube (online video-sharing platform and social media tool), BBC English (online language service of BBC World Service), Tureng (a bilingual online Turkish-English dictionary), Instagram (a social networking service), Duolingo and Memrise (intelligent tutoring systems for language learning).

The students emphasized the many benefits of learning English with digital tools. Digital tools allow learners to access the content anytime they want using their cellphones. On this issue, one student (M159) said: "I think YouTube is the most useful for me because I access everything about learning the language with easily [sic]." Another participant (L91) added: "I have benefited much with social media websites because I always can access it on my phone all the time."

Digital tools allow learners to practice numerous skills at once. L4 said: "YouTube, because I can improve more skills, such as listening, reading, speaking, compared to other tools." Another student said: "Podcasts, because they enhanced both my speaking and listening skills." (L47)

In addition to language development gains, students emphasized that language learning with digital tools is a win-win process. While being entertained, learning comes as a bonus, and learners broaden their horizons. On this issue, M81 said: "YouTube and Instagram. Especially memes, I follow on Instagram because it entertains me while learning." Focusing on the role of BBC English regarding language development, L90 pointed out that: "In this way, I not only improve my listening skills but also I know what happened all around the world."

Digital tools allow learners to access high-quality content in accordance with their own tastes and repeat the content anytime they want. Regarding this topic, L66 stated that: "BBC English

learning is the best. It is very qualified, and it has many good contents." M50 said: "Duolingo is very beneficial because you can repeat until you learn."

Moreover, digital tools allow students to practice the language in an interactive, authentic language learning setting and learn the daily language and colloquial expressions that are difficult to gather in-class. Emphasizing the social interaction version of YouTube, student M196 indicated that "Because on this platform, I watch dozens of videos, and we can discuss in the comments with other people." Focusing on the social role of online games, H45 said: "Games, because I hear original sentences which I could not hear before and interact with natives [English] in Clanset."

Some of the students also highlighted the complementary role of digital tools for in-class education. For instance, M75 indicated: "I benefit much from online websites. My lessons [in-class] are not enough to study learning English." Emphasizing the limited in-class course hours, L83 stated: "I have benefited from Blogs much because to improve my English, I have to use listening texts."

Discussion

This study has explored the learner profiles in self-directed language-learning initiatives through digital practices and mapped the nature of university students' out-of-class English language engagement using a survey design. Grounded on the main tenets of SDT, it was hypothesized that autonomous language learners are active learners outside the classroom, as well as in the classroom. They successfully self-direct their language learning without teacher direction. Then, the study connected learner autonomy and out-of-class technology engagement for learning English and aimed to investigate distinct characteristics of language learners. Two research questions guided the study, and the findings for each research question have been outlined.

To answer the research questions, first, a hierarchical cluster analysis was conducted, suggesting two distinct profiles in terms of autonomous language learning through digital practices: "More autonomously engaged" versus "Less autonomously engaged" students. This finding verified the hypothesis of the study. As expected, the students who feel greater feelings of autonomy in their learning are also the ones who are highly engaged in the learning process. In concurrence with the relevant literature, the findings showed that these two variables are closely associated and students with high levels of learner autonomy tend to have strong out-of-class technology engagement (Chick, 2018; Lai & Gu, 2011; Lai et al. 2015, 2016; Reinders & White, 2016). Further, it should be noted that, unlike the earlier literature suggesting that EFL learners have some problems taking responsibility in their learning process and need significant teacher guidance (Eksi & Aydin, 2013; Inozu et al., 2010), the means for both groups' out-of-class digital language-learning experience and autonomous language learning were relatively high. This outcome corroborates the recent studies about the findings of the technology-enhanced language practice, which suggest that students in the digital age take more initiative in their language learning despite waiting from their teachers (Haidari et al., 2019; Lai et al., 2018). This might be related to the rapid development of digital tools, smartphones and apps in the last decade (Jurkovič, 2019).

Based on the emerged learner profiles, a number of comparisons were conducted between the groups to understand the different learner profiles' engagement with a digital tool. Regarding the contrast within the perceived language proficiency levels, students who are more

autonomously engaged with digital tools tend to have a higher proficiency both in receptive and productive language skills than the less autonomously engaged students. In parallel to literature (e.g., Dincer & Yesilyurt, 2017), students have lower proficiency levels in productive skills in EFL contexts. According to daily time spent and variety of used tools, more autonomously engaged students spend greater time daily for learning English online and use a wider variety of digital tools than the less autonomously engaged students. As Lai and Gu (2011) stated, perceived language proficiency is associated with learners' use of technology to seek language-learning resources and opportunities beyond the classroom. Students who have studied the language for a long time and have higher proficiency levels tend to spend more time daily and assume more personal responsibility (Orhon, 2018).

With regard to the most frequently used digital tools, social media, online dictionaries, websites for language learning, grammar and spelling checkers, and intelligent tutoring systems were found to be the most popular for both groups, which is consistent with a number of studies (Cai et al., 2017; Kuznetsova & Soomro, 2019). Despite the affordances for language development, tools such as blogs, forums and automatic speech recognition are the least popular. Although blogs and forums serve as social-oriented technological experience for learners, they are the least popular activities in earlier studies (Lai & Gu, 2011; Lai et al., 2018). In addition, there is limited research on the use of automatic speech recognition tools in language learning, as they have only recently gained popularity due to the prevalent IOS and Android applications. With the improvements in accurate speech recognition, automatic speech recognition technology has become ubiquitous and important for fostering learner autonomy (McCrocklin, 2016). In conjunction with the frequency of use of the tools, students in both groups benefited most from social media, websites for language learning and online dictionaries. Learners named language-learning websites like BBC English learning, social media sites such as YouTube and Instagram, and digital games as very helpful tools. It was shown that English major students are more aware of the benefits of the tools and use these effectively for language development. In contrast, Xodabande (2018) found such online websites and computer games to be perceived as less effective tools in enhancing language development. However, Xodabande's results were country-specific, and most social media sites are filtered; these tools do not require much effort to push learners to use them actively. The majority of tools provide receptive activities and entertainment, and information-oriented activities are more common in digital language-learning practices (Jurkovič, 2019; Lai, 2015, 2017; Lai et al., 2015, 2018).

Furthermore, the findings of this study suggest that online digital tools allow learners to practice skills with ease at all times. In parallel to the entertainment- and information-oriented technological experience (Lai et al., 2018), students share or access information useful in daily life while being entertained. In addition, this unintentional process might turn into the incidental acquisition of the language, and naturalistic learning might occur (Sockett, 2014). Online digital tools allow students to practice English in an interactive setting focused on daily language. Most digital tools, especially social media, provide authentic language and increase learners' exposure to target language outside the classroom, especially in EFL settings (Hyland, 2014; Richards, 2015; Xodabande, 2018). Such tools might be used to compensate for the deficiencies of formal education, such as limited course hours and oral practice (Lai et al., 2016; Richards, 2015; Xodabande, 2018). As Lai et al. (2016) emphasized, learning language through digital practice beyond the classroom might serve a compensatory role for limited course time or for practicing lesser known or unclear aspects that are not addressed in the formal education.

The limitations of this study involve the study participants and data collection methodology. First, although two learner profiles emerged, both groups had relatively high means in language learning with technology outside the classroom. This might be related to the study group, as the participants were students in the English major. English major students might have greater needs as well as more self-determined motivation levels than learners who study the language for more external reasons, such as passing an exam or a career promotion (Dincer & Yesilyurt, 2017). In this vein, the other groups of students in different branches might be a strategic new focus of research for further inquiry. Second, this study adopted a survey approach to generalize and understand what transpires outside the classroom in terms of language learning with digital tools. Although this methodology fit the research goals well, it lacked presentation of the causal relationships between the reasons for use and specific tools, and says little about predominant language use in all digital activities. Then, one-on-one interviews are needed for in-depth analysis and understanding of how these digital tools helped learners to learn English beyond the classroom. It might also be interesting to adopt a mixed-method or longitudinal design to understand the relationship and activities, including language use beyond the classroom (Jurkovič, 2019). As Reinders and Benson (2017) suggested, asking learners to keep diaries or reflective journals to track their engagement and individual strategy use in-depth on a daily basis might illuminate the specific tools used in this lesser known terrain of applied linguistics.

Conclusion

The study findings provide further understanding of the nature of language learners' out-of-class language learning experiences with digital tools. The research provided findings in which tools are used by more autonomously engaged and less autonomously engaged learners. The findings reveal that learners are highly engaged with digital tools, and that these digital tools afford for learners to individualize and monitor their language development. Additionally, the study highlights the necessity for language teachers to homogenize students' out-of-class experiences and in-class language learning. With the divergence of digital tools and the use of smartphones in daily life, the boundaries between in-class and out-of-class have gradually blurred (Ma, 2017). Therefore, it seems imperative for teachers to guide their students' learning outside the classroom and link in-class teaching to their students' out-of-class activities by understanding their students' engagement with digital tools (Reinders & Benson, 2017). Research on what transpires beyond the classroom with digital tools for language learning remains a raw area, and there are many questions waiting to be answered. Any research attempt to understand language learners' practices outside the classroom in the digital era would assist in developing thorough understanding of the language-learning process.

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