Self-directed Use of Digital Devices for Out-of-class English Learning: A Case of Islamic Education Students

by Fauzi Fauzi

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Self-directed Use of Digital Devices for Out-of-class English Learning: A Case of Islamic Education Students

Fauzi Muharom, Arif Nugroho, Heldy Ramadhan Putra P.

Abstract

Twenty-first century teaching and learning is the witness of online resources accessibility to foster learning experience across time and spaces in an informal context. Hence, enhancing learners' voluntary adoption of digital devices is crucial to augment the promising assistance of technology for English language learning. Drawing on the issue, this study sheds some light on English for Specific Purposes (ESP) learners' voluntary use of digital devices for out-of-class language learning. A total of 267 Indonesian ESP learners majoring in Islamic education program participated in this study through a survey and semi-structured interview to examine how they involved in informal digital learning of English beyond the classroom. The results showed that the learners used digital devices for both intentional learning to strengthen coursework and incidental learning to expand access for the target language. It was also found that the learners frequently employed digital devices for personalized aspects of the language rather than authenticity and connectivity. As for the digital device selection, the learners mostly preferred mobile phone to computers and tablets to carry out out-of-class English language activities. These results contribute to providing fruitful insights for educators on how to support ESP learners to engage in informal digital learning of English and achieve a possible synchronicity between teachers' designed digital activities and learners' actual learning practices.

Keywords

Autonomous learning, Informal learning, Digital devices for English learning, Self-directed language learning

Introduction

Fostering learners' voluntary adoption of digital devices in informal context is critical to enhancing educational potentials of technology in English language teaching (ELT) (Lai et al., 2016; Lee et al., 2017). With the advanced development of technology, learners are encouraged to gain initiative in their language learning beyond a formal classroom (Lee & Drajati, 2019; Nugroho & Atmojo, 2020). Accessibility to unlimited resources, time, and learning spaces characterize the current situation of educational landscapes and enable self-directed performance of informal learning experiences (Sundqvist & Sylvén, 2016). Learners are provided with ample opportunities to develop learning autonomy and create personalized learning ecologies (Bachmair & Pachler, 2014). Thus, our language learners today are at the center of digital learning; thus, promoting their enthusiasm to involve in self-directed learning activities cannot be done

without an in-depth understanding of their preferences on the use of digital devices for informal learning context.

The concept of self-directed learning has initially defined by Knowles (1975) as "a learning process performed by individuals to gain knowledge, identify learning needs, select learning materials, and implement appropriate learning strategies in their own initiative, with or without the assistance from others" (p. 18). In the present-day era of advanced development and affordances of technology, ELT scholars have acknowledged how learners use a range of digital devices and online resources to perform self-directed language learning beyond the formal classroom (Sundqvist & Sylvén, 2016). More recently, Lee (2019) refers this self-directed language learning as informal digital learning of English (IDLE), which is further elucidated as English learning practices performed by learners in informal context with the assistance of digital devices such as mobile phones, computers, and tablets. Lee (2019) has also emphasized that language learners commonly carry out both receptive IDLE activity and productive IDLE activity. The former indicates English learning activities where learners obtain knowledge and information as passive consumers (e.g. reading news, listening to English content, and watching English videos). On the other hand, the latter refers to English learning activities in which learners generate knowledge and information as active producers (e.g. chatting in English, writing comments in English, or sending emails to others in English).

Previous studies has explored language learners' views, beliefs, and perceptions of digital devices use for language learning in pedagogical classroom trials or experiments (Burston, 2014; Petersen et al., 2014; Smith & Wang, 2013; Sung et al., 2015). These results have showed that learners provided positive concerns on digital language learning activities, but unveiled some hesitations on the lack of assistance in such autonomous learning environment. It was also found that learners preferred computers or laptops to mobile phones when choosing the most convenient digital devices to carry out learning activities beyond classroom (Liu et al., 2015; Pollara & Broussard, 2011; Stockwell & Hubbard, 2013). Researchers have also revealed that learners acknowledged digital devices more positively to engage in receptive language learning activities but less positively to build social connectivity and collaboration in English communication (Chen, 2013; Dashtestani, 2016). Specifically, learners' use of digital devices in daily life such as reading news online, watching videos, and listening to audio are depicted as the most frequent learning activities, preceding other activities such as grammar exercises, vocabulary learning, and communication practices (Bradley et al., 2017; Jones, 2015; Viberg & Grönlund, 2013).

Hence, previous research has yielded language learners' perceptions on the use of digital devices for language learning. However, most of the previous studies were conducted in pedagogically designed classroom environment in the formal context (Burston, 2014; Lai, Wang, et al., 2016; Liu et al., 2015; Petersen et al., 2014; Pollara & Broussard, 2011; Smith & Wang, 2013). Only recently did a few number of studies examine English learners' voluntary adoption of digital devices for language development outside the formal education contexts (Jones, 2015; Lai & Zheng, 2017; Viberg & Grönlund, 2013; White & Mills, 2014). Notwithstanding the fact, these initial inquiries into the learners' voluntary use of digital devices for language learning in informal settings could not explore much on the nature and types of digital learning

experiences performed by the language learners. As conceptualized by Kearney et al. (2012), digital learning in formal contexts is distinguished by three different dimensions of pedagogical frameworks, i.e. (1) personalization (the ownership of learning), (2) authenticity (contextual and realistic learning materials and tasks), and (3) connectivity (collaboration and connected learning across time and spaces). Kearney et al's. (2012) pedagogical frameworks of digital learning were supposed to refer in the context of formal learning; therefore, whether the same dimensions of digital learning are manifested in out-of-class language learning is an empirical question and needs further exploration, especially in Indonesian EFL setting.

Drawing on this issue, this study is directed to shed some light on the research gap by examining the nature and characteristics of English learners' self-directed use of digital devices for language learning in an informal context. An in-depth understanding of learners' preferences and voluntary use of digital devices for out-of-class language learning is critical to reach a feasible synchronicity between teachers' designed-digital-learning activities and students' learning practices. Moreover, such an understanding provides fruitful insights for educators on how they will be able to assist learners in developing autonomous learning experiences across time and spaces in an informal context. The results of this study contribute further as literature enrichment in the field of digital-assisted language learning through constructing an understanding on the nature of learners' voluntary adoption of digital devices for language learning, particularly for English for specific purposes students.

Method

Rationale of the Method

The main objective of this study was to explore English learners' self-directed use of digital devices to understand the nature of informal language learning activities beyond the classroom. To achieve the research objective, a descriptive research approach was followed using a survey design. According to Fraenkel and Wallen (2009), the purpose of a survey is to portray the nature of a population to describe how the members view or value one or more variables. In the context of this study, the views and characteristics of English learners on self-directed use of digital devices for language learning beyond classroom became the attribute to explore. The survey in this study employed a questionnaire to gather the required data, and followed by semi-structured interviews to examine a more in-depth understanding on how the English learners directed themselves to engage in a language learning using digital devices beyond the classroom

Participants

A group of undergraduate students majoring in Islamic education program of an Islamic university at Surakarta city Central Java Indonesia were recruited for this study. They were studying English and enrolled in a compulsory English course in their first-year of study in the university. Employing a convenient technique sampling, a total of 267 Indonesian English learners (174 females and 93 males with ages ranged from 18-24 years old) participated in this study. They were native Indonesian and learned English as a foreign language. The majority of the participants were sophomores (n = 159; 59%) and freshmen (n = 108;

41%). Seventy-eight percent (78%) of the learners self-rated themselves as of beginning proficiency level, fourteen percent (14%) as of medium proficiency level, and only eight percent (8%) considered themselves as of advanced proficiency level. After removing several outliers, a total of 264 valid responses remained and used for this study. Among the participants who declared to participate in a further interview, 16 were invited to reveal more detailed information about how they engaged in an autonomous learning experience beyond classroom using mobile devices.

Instruments and Data Collection

This study employed a questionnaire referring to Kearney et al's. (2012) pedagogical frameworks that consisted of three dimensions of digital language learning, i.e. personalization, authenticity, and connectivity. The questionnaire comprised three primary parts. The first part aimed to collect participants' demographic data (gender, age, length of study, etc.). The second part elicited the frequency of digital device use for language learning and how it supports the participants' development of different language aspects. Lastly, the third part was directed to obtain information about the data on the dimensions of self-directed use of digital devices for language learning beyond classroom. All items in the questionnaire were piloted by involving a group of English learners in a university at Surakarta Indonesia and were revised in several iterations as a result of the pilot study. The final version of the questionnaire was further used for the sake of data collection. The questionnaire was converted in the form of online survey using Google forms and was distributed to the participants during the months of March to August 2020. The questionnaire link was spread by means of emails and WhatsApp, the most frequently used messenger application in Indonesia.

Before the participants filled out the questionnaire, they were notified that their responses would be used as research data on self-directed use of digital devices for English learning. They were asked to give perceptions on how they engaged in daily activities using digital devices in relation to language learning. A six-point Likert scale ranging from 1 (strongly disagree) to 6 (strongly agree) was used to indicate the participants' agreement with the dimensions of self-directed use of digital devices for language learning in informal context. The participants were also to report the average hours per week they engaged in digital learning activities beyond the classroom in another six-point Likert scale indicating 1 (never), 2 (less than 1 hour), 3 (1-3 hours), 4 (3-7 hours), 5 (7-14 hours), and 6 (more than 14 hours). In order to elicit the frequency of the participants' self-directed use of digital devices for various language skills development, the similar six-point Likert scale was further employed.

Following the administration of questionnaire, semi-structured interviews were conducted with 16 participants (namely P1-P16) to explore more detailed information about how they use digital devices in an informal context of English learning. Prior to the individual interview using video call, each participant was asked to note several digital learning activities outside the classroom they engaged in in a piece of paper. The notes were then used to stimulate the interview process, in which the participants were encouraged to convey and elaborate the way they carried out every learning activity they wrote in the paper. The semi-structured interviews were last for about 15-25 minutes of each and were conducted in either Indonesian or

English, depending on the participants' preferences. During the interview, the participants were provided with a guidance, and only clarification and elaboration questions were asked to jump into more detailed understanding about the topic being discussed.

Data Analysis

A sequential explanatory design (Creswel, 2009) was adopted as data analysis technique in this study. The qualitative data obtained from semi-structured interview were employed to further confirm the quantitative findings gathered from the questionnaire. Descriptive statistical analysis in the form of mean (M) and standard deviation (SD) was firstly conducted to proceed the participants' responses obtained from the questionnaire. As an effort to ensure the validity and truthfulness of the instrument, data, and the whole research process, one of the researchers developed the questionnaire and conducted plenary data analysis. Thereafter, the other researcher checked and evaluated the instrument and data. This study emphasized content-related evidence of validity concerning on having others to examine the format and content of the questionnaire and assess if it was appropriate (Fraenkel & Wallen, 2009). As for the interview data, an inductive data analysis was administered in this study by employing a cyclical and evolving process of coding (Saldaña, 2015). The coding process was based on the main theme of this study about the participants' self-directed use of digital devices for English learning concerning on different aspects of learning engagement, i.e. when and where they have learning activities, how they make use of digital technology for language learning, what devices they use, and reasons for their selective learning engagement. The coding of each participant's response was further compared to find repeating ideas until the saturation point was achieved. Lastly, the researchers reviewed and integrated the emerging themes that led to the final results and later used as the basis of data conclusion. With regards to any disagreement between the researchers, stages of discussion and evaluation were conducted to achieve a consensus on the final agreement.

Results

Characteristics of Self-directed Use of Digital Devices for English Learning

The results of survey depicted that the English learners frequently engaged in digital learning activities to assist their language development. As presented in table 1, they spent an average of 4-5 hours per week for language learning using digital devices both for intentional learning (M = 4.12; SD = 1.05) and incidental learning (M = 4.07; SD = 1.17). The results of semi-structured interviews further revealed the frequent use of electronic dictionary, internet sites (e.g. Edmodo and Podcast), Google Translate, and Youtube as digital learning aids to assist with homework and enhance their language development. The interviews also depicted the frequent use of various social networking sites as media of language learning activities such as watching videos and listening to songs in Youtube, online chatting using WhatsApp and Facebook, and reading popular news on Instagram and Line application. As one of the participants said:

> *"..... and I often use online dictionary or Google translate to find the meaning of difficult words that I encounter. Besides, I also open several internet sites such as Edmodo and Podcast when I do*

my homework or just to develop my English skill. In addition, I also often watch learning videos or just to listen my favorite English songs in Youtube to help me improve my language skill and cultural ability." (Int. P7).

Table 1. Types of digital learning activities beyond classroom

Types of digital learning activities	M	SD
The use of mobile devices for intentional learning and strengthening coursework	4.12	1.05
The use of mobile devices for incidental learning and expanding access to the target language	4.07	1.17

Note: the value was based on the 6-point Likert scale with 1 (never), 2 (less than 1 hour), 3 (1-3 hours), 4 (3-7 hours), 5 (7-14 hours), and 6 (more than 14 hours) per week

In terms of language aspects, the results of survey described that the participants frequently used mobile devices to enhance receptive skills such as vocabulary (M = 4.94; SD = 1.61), reading (M = 4.71; SD = 1.43), grammar (M = 4.57; SD = 1.46), and listening (M = 4.12; SD = 1.38) (see table 2). The results further indicated that they less frequently used mobile devices for productive language skills, i.e. writing (M = 3.65; SD = 1.21), speaking (M = 3.41; SD = 1.29), and cultural competence (M = 3.24; SD = 1.19). The results of semi-structured interviews confirmed these findings that the participants frequently performed autonomous learning using mobile devices to improve their vocabulary acquisition, understand a reading passage, and enhance grammatical competence. The only learning activities to enhance their productive skills were creating posts on social media and chatting with friends on messenger application such as WhatsApp, Instagram, and Facebook. As two participants said:

"Yess... I always use my smartphone to help me find difficult words when I read an English text or search for an explanation when I have difficulty in doing grammar exercises, both of my homework and TOEFL exercises." (Int. P1)

"For developing my productive skills, I often use my mobile phone to create writings in English by online chatting through WhatsApp or Facebook with my friends or updating status in my Instagram or sometimes I have a project to post a short speech in English and my teacher asks me to post it in my Instagram" (Int. P11)

Table 2. Digital learning activities for different language aspects

Language aspects	M	SD
Vocabulary	4.94	1.61
Reading	4.71	1.43
Grammar	4.57	1.46
Listening	4.12	1.38
Writing	3.65	1.21
Speaking	3.41	1.29
Culture	3.24	1.19

Note: the value was based on the 6-point Likert scale with 1 (never), 2 (less than 1 hour), 3 (1-3 hours), 4 (3-7 hours), 5 (7-14 hours), and 6 (more than 14 hours) per week

Dimensions of Digital Learning in Informal Context

The results of survey yielded three dimensions of digital language learning as conceptualized in Kearney et al's. (2012) pedagogical frameworks, namely personalization (where learners utilize mobile devices to help them engage in English learning activities anytime and anywhere), authenticity (where learners utilize

mobile devices to perform authentic learning activities), and connectivity (where learners utilize mobile devices to enhance communication and connection with social communities and native speakers of English). As presented in table 3, the results showed that the participants positively perceive the use of mobile devices for personalization (M = 5.46; SD = 0.87), followed by connectivity (M = 4.94; SD = 1.06), and authenticity (M = 4.51; SD = 1.22).

TABLE 3 Dimensions of digital learning in informal context

No	Statement	n	α	M	SD
Personalization		8	0.97	5.46	0.87
1	Informal digital learning significantly supports my language development			5.19	0.82
2	Mobile devices offers me opportunity to learn English whenever and wherever I have spare time.			5.90	0.89
3	Mobile devices enable me to understand and utilize English properly at any time and any place.			5.73	0.83
4	Mobile devices help me to perform self-paced and personalized English learning outside the classroom.			5.21	0.91
5	Digital learning using mobile devices is very flexible since it enables me to enhance my English ability without time and space limitations.			4.98	0.90
6	Digital learning using mobile devices enables me to expand my English learning activities outside the classroom.			4.90	0.84
7	Mobile devices enhance my autonomous learning of English.			5.96	0.94
8	Mobile devices encourage me to perform independent learning of English			5.87	0.90
Authenticity		4	0.83	4.51	1.22
1	Mobile devices ensure the authenticity of my English learning.			5.01	1.23
2	Mobile devices motivate me to join events such as workshops and seminars held in English.			4.12	1.23
3	Mobile devices encourage me to participate in English social communities.			3.95	1.07
4	Mobile devices make my English learning resources and activities more authentic.			4.97	1.35
Connectivity		4	0.87	4.94	1.06
1	Mobile devices motivate me to have interaction with others in English.			5.15	0.98
2	Mobile devices improve my collaboration in English learning activities with peers and friends.			5.21	0.91
3	Mobile devices enhance my confidence to communicate with native speakers.			5.16	1.01
4	Mobile devices enhance my involvement in International English-based communities.			4.13	1.12

Notes: The value was based on the 6-point Likert scale with 1 (strongly disagree), 2 (disagree), 3 (neutral), 4 (a little bit agree), 5 (agree), and 6 (strongly agree)

These results were further echoed in the semi-structured interview responses. The interview responses reveal the participants' agreements that the use of mobile devices for language learning enabled them to extend learning activities across space and time and offer immediate help when they were encountering difficulties in learning the target language. Most of the interview participants agreed that mobile devices

have encouraged their autonomous learning of the target language because of the flexibility and affordances. As three of the interview participants said:

> *"Learning using mobile devices surely enables me to lengthen my learning activities wherever and whenever I have a good mood. It is flexible since I can carry out the learning activities outside the classroom. It helps me to develop my personal language skills." (Int. P4)*

> *"I cannot be separated from my smartphone when having English learning activities because when I face challenges and difficulty such as grammar and vocabulary I spontaneously open my gadget and look for the solution for my difficulties. Mostly I open dictionary, Google translate, or looking for an explanation in the Google search engine. I also often jump to Youtube to assist me solving my problems and difficulties about English." (Int. P2)*

> *"..... and of course learning English beyond classroom using mobile devices motivates me to perform autonomous learning since I can conduct my learning activities whenever I have spare time. Also, mobile devices give me flexibility to have some English practices such as watching videos, listening to songs, chatting with friends, and reading some news in social media. I think these activities can improve our language ability." (Int. P16)*

The interview participants further conveyed their perceptions about the use of mobile devices for connectivity in the target language communities and authenticity of learning activities. Although the participants report less positively agreements in terms of connectivity and authenticity, some interesting findings are revealed in the interview section. Two-third of the participants in interview section expressed that the use of mobile devices have motivated them to perform productive skills (mostly in the form of writings) such as online chatting, posting ideas or opinion on social media, and commenting on the others' postings. These activities were supposed to enhance their confidence to follow and join some events hosted in English such as seminars and workshops. It was also found that learning English using mobile devices could stimulate the participants to join several English communities such as cross-cultural discussion forum, English conversation and group discussion, and debating community. Moreover, the participants concerned about cross-cultural knowledge that they could obtain from authentic materials such as videos and dialogues which were accessible in social media especially Youtube. As four of the interview participants said:

> *"..... and digital device activities through social media WhatsApp and Facebook also motivate me to create some writings in English, such as chatting, sharing ideas and opinion, and giving comments for my friends' postings." (Int. P12)*

> *"Now I feel confident in joining events held in English. In the last two months, I frequently join online seminars and trainings conducted in English. Additionally, I fell more confident to involve in English discussion forum and conversation practices especially through social media." (Int. P5)*

> *"Outside learning activities using mobile devices give me an opportunity to find a lot of authentic materials such as videos, advertisements, songs, dialogues, etc. The most beneficial aspect that I can take from the learning activities is enhancing my cultural awareness and communicative competences by using these authentic materials". (Int. P9).*

> *"I agree that learning English using smartphone can increase the level of confidence. I am motivated to develop my speaking ability and I often watch how native speakers, especially public figures, deliver their speech. Therefore, I am now joining a debating community in my campus, and in the age of this pandemic, we often practices online using social media." (Int. P14).*

Mobile Devices Selection for Language Learning beyond Classroom

In order to reach a comprehensive delineation of the findings, this study also examined the participants' preferences on the mobile devices they primarily use to perform language learning activities beyond a

formal education setting. Based on the semi-structured interview responses, various digital learning activities were performed by the participants. It was found that mobile phones became the most frequently used of mobile devices to assist their language learning compared to tablets and computers/laptops as mentioned by the participants. In general, the participants preferred to use smartphones to seek instant help for vocabulary acquisition, grammar study, listening to music, playing games, online chatting, and language comprehension. The participants equally reported the use of tablets and laptops to assist the authenticity of language learning activities such as casual reading, surfing online, listening to conversation and dialogues (including seminars and workshops), and watching videos. As several participants said:

> *"I prefer to use my mobile phone to conduct some activities to improve my English ability. The activities are such as consulting online dictionary and translation tools to find meaning of words, studying grammar, and playing games." (Int. P10)*
>
> *"I enjoy using smartphones to do online chatting with my friends or collogues, mostly through social media like WhatsApp and Instagram." (Int. P2)*
>
> *"Among mobile phones, tablets, and laptops, I prefer to use mobile phones to carry my digital English learning activities. Mobile phones are more flexible and portable so that I can start and enjoy learning at any time and any place I have a leisure time." (Int. P6)*
>
> *"..... and for reading I choose laptops or tablets since the devices give me convenience in terms of layout and presentation rather than mobile phones". (Int. P11)*
>
> *"I choose to use laptops or tablets when joining online seminars and workshops or watching videos and film. They are more comfortable." (Int. P1)*

In addition, the interview responses showed that the participants' selective use of mobile devices was affected by the technological ease of use and affordances. As a participant said:

> *"I choose to use smartphone to help me with learning activities because it enables me to do my activities anytime and anywhere. Besides, smartphone is portable and I always bring it wherever I go. It is also known that using smartphone is more affordable than laptops and tablets." (Int. P14)*

Discussion

The present study aims to examine the nature of self-directed use of digital devices for out-of-class language learning. The results show that EFL learners use digital devices to equip them with language knowledge and skills both for strengthening coursework and expanding the target language. Receptive language skills such as vocabulary learning, reading, and grammar become the most frequent language aspects that EFL learners learn using digital devices beyond the classroom. This study also reveals that EFL learners perform three dimensions of digital device use for self-directed out-of-class language learning (personalization, authenticity, and connectivity) as stated in Kearney et al's. (2012) pedagogical framework. Through semi structured interviews, this study further depicts that digital phone is the most frequent digital device used by EFL learners to engage in various digital learning activities outside the classroom, followed by laptops and tablets.

So, what do the findings imply for us? First of all, Lee's (2019) concept of informal digital learning of English (IDLE) beyond classroom is obviously confirmed in this study. With the present-day advancement

of technology, digital devices offer ample opportunities for language learning development not only in a formal classroom but also beyond the classroom (Nugroho & Atmojo, 2020). The results of this study emphasize potential benefits of self-directed use of digital devices to enhance language learners' knowledge and skills in an informal context. This finding is similar to the results reported by some ELT scholars (e.g. Derakhshan & Hasanabbasi, 2015; Isbell, 2018; Lee & Lee, 2019; Zhang, 2020) that nowadays English language teaching activities should begin to go beyond a formal classroom by fostering the use of digital technologies, despite of the potential constraints. However, it is clearly acknowledged that the learners' awareness to cope with informal digital learning of English activities outside the formal classroom seems to be the primary concern (Kirovska-Simjanoska, 2019). Hence, ELT teachers need to find a way to keep learners motivated in gaining maximum language inputs through the use of accessible digital devices.

Second, this study's results yield in the three dimensions of digital learning as conceptualized in Kearney's et al. (2012) pedagogical framework. Particular implications of the three dimensions indicate several unique features of informal digital learning of English. To begin with, participants' responses on the personalization dimension hint two main aspects: the flexibility of learning across time and spaces and the opportunity to have on-the-spot assistance when learning the target language. This finding correspondences with the result reported by Lee (2020) that digital practice for out-of-class learning enables learners to have great numbers of language exposures because of its flexibility and affordances. Furthermore, the use of digital devices for entertainment purposes, such as watching videos, listening to music, and reading stories, represent the authenticity dimension as performed by the participants. This is similar to the finding of Lai and Zheng (2018) that learners tend to engage with videos and songs as authentic learning materials. As for the connectivity dimension, this study's result indicates that learners perform out-of-class digital activities to communicate with peer learners and join social communities in the target language. This finding suggests that the use of digital devices for connectivity in informal context might be voluntarily carry out by advanced proficiency learners as having communication in a foreign language requires not only language knowledge but also cross-cultural understanding. Above all, these results imply that Kearney's et al. (2012) framework of pedagogical language learning can be applied to the context of an informal digital learning of English.

Third, this study further results in the learners' selection of technological devices for informal language learning. The finding suggests that the learners are closely associated with digital phones when performing casual learning and simple digital activities, and highly associated with laptops or tablets when coming to more challenging tasks and serious learning, which is found in line with the previous research findings (Ch'ng & Samsudin, 2013; Jarvis & Achilleos, 2013; White & Mills, 2014). In addition to the learners' selective use of digital devices, it is found that they are influenced by some factors such as technological affordances, perceived ease of use, and socio-economic context. Moreover, this result clearly indicates EFL learners' characteristics and preferences in conducting various out-of-class learning activities using a range of digital devices. Thus, it is a worth saying that English teachers should begin to acknowledge and put learners' digital learning characteristics as a core consideration in designing digital-supported language learning in informal settings beyond classroom.

The results of this study provide several implications for English language teaching. First, by investigating learners' self-directed use of digital devices outside the classroom, English teachers can use the results of this study to define and specify types of language learning activities to foster the learners' engagement and autonomy. Previous results show that the relation between learners' autonomy and informal learning beyond the classroom is sophisticated; thus, the role of teachers is crucial (Nugroho & Mutiaraningrum, 2020; Xodabande, 2018). As stated by Reinders and Benson (2017), if language teachers are not well-equipped with their students' learning activities outside the classroom, they may fail to foster the potential benefits of knowledge and skills that the students have. Second, the accessibility of digital learning through social networking sites and internet application offers language learners ample opportunities to enhance the efficacy of informal digital learning in a more meaningful way. By this context, the most challenging issue is how to increase the students' motivation and make them aware of the promising advantages of out-of-class digital learning activities (Hembrough & Jordan, 2020; Yurdagül & Öz, 2018). Hence, the results of this study strongly suggest language teachers to design interesting out-of-class learning activities by integrating accessible and available digital platforms.

Conclusion

This study sheds some light on English for specific purposes (ESP) learners' (majoring in Islamic education program) voluntary adoption of digital devices to assist language learning activities in an informal setting. It shows the nature and characteristics of the learners' digital device use for out-of-class language learning, where most of their learning activities are spent to gain language inputs of receptive skills such as vocabulary acquisition, grammar knowledge, reading activities, and listening practices. This study reveals three dimensions of informal language learning of English with digital devices – personalization, authenticity, and connectivity – and suggests that the learners more frequently use digital devices to support personalized learning than to experience authenticity of learning materials and social connectivity. They prefer to use mobile phone as a digital device to carry out informal digital learning activities, and their selection is highly influenced by technological practicality and affordances. As for the limitations, this study was conducted in a foreign language context with only 8% of the total participants acknowledged themselves as having advanced proficiency level. As a result, the findings might be biases by the particularities of the population, and might be result in different finding when the participants are considered as advanced language learners. Moreover, learners from different socio-cultural and economic backgrounds potentially possess different profiles of informal digital learning. Therefore, future studies are strongly suggested to examine self-directed use of digital devices for out-of-class language learning by involving different characteristics of participants and socio-cultural backgrounds.

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