

INFORMAL DIGITAL LEARNING OF ENGLISH TO SUPPORT A FORMAL SPEAKING COURSE: EFL PRESERVICE TEACHERS' PERCEPTIONS AND IMPLEMENTATION IDEAS

Dr. I Putu Indra KUSUMA

ORCID: 0000-0002-1574-6070
English Language & Education Department
Universitas Pendidikan Ganesha
Bali, INDONESIA

Dr. Ni Luh Putu Eka Sulistya DEWI

ORCID: 0000-0001-5487-1483
English Language & Education Department
Universitas Pendidikan Ganesha
Bali, INDONESIA

Dr. A.A. Gede Yudha PARAMARTHA

ORCID: 0000-0002-2499-3655
English Language & Education Department
Universitas Pendidikan Ganesha
Bali, INDONESIA

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ABSTRACT

This study aimed at exploring how English as a foreign language (hereafter, EFL) preservice teacher (hereafter, PSTs) who had no teaching experience perceived Informal Digital Learning of English (hereafter, IDLE) and their IDLE implementation ideas for their future students' out-of-class activities to support formal classroom instruction. The researchers employed a basic qualitative design to understand the participants' perceptions and implementation ideas. The data were gathered through interviews and document analysis, and subsequently, 14 EFL PSTs with no prior teaching experience were recruited using a purposive sampling strategy. The data were transcribed, coded, and analyzed using inductive thematic analysis. The findings give new insights that the participants had positive perceptions towards IDLE and had various implementation ideas of IDLE for their future students, mostly through disrupting Web 2.0 technology tools, even though they had no teaching experience using technology. Two implications for English educators and teacher education programs are highlighted in this article: changing teachers' mindsets towards EFL learning and the insertion of IDLE as a topic into pedagogy courses.

Keywords: EFL preservice teachers, informal digital learning of English, TELL, online learning.

INTRODUCTION

Current technological advancements and innovations have significantly increased language learners' opportunities to acquire EFL outside of the classroom (Kern, 2006; Lamb & Arisandy, 2020; Lee et al., 2021; Xodabande, 2017), yielding a new form called IDLE (see Lee, 2019a, 2019b; Lee & Dressman, 2018; Lee & Lee, 2021). Recent studies indicate that IDLE has been implemented around the globe, such as in South Korea (Lee & Dressman, 2018; Lee & Lee, 2021), France (Socket & Toffoli, 2012), Turkiye (Dincer, 2020), Taiwan (Wang & Chen, 2020), Denmark (Jensen, 2017), Iran (Soyooof, 2022; Xodabande, 2018) and Indonesia (Lamb & Arisandy, 2020; Rahmawati et al., 2019). Moreover, among the studies mentioned above, IDLE is quite popular to support English-speaking skills development, such as linguistics elements

to support speaking skills (e.g., Sockett & Toffoli, 2012; Pia Sundqvist, 2019) and oral communication (e.g., Lee, 2019b; Lee et al., 2021; Lee & Dressman, 2018). For example, Lee (2019b) reported that his research participants communicated in English using social media, which supported their informal English learning. In addition, Lee also discovered that doing IDLE helped develop his participants' willingness to communicate in English.

Even though IDLE brings many advantages to English learning, many in-service EFL teachers have different perceptions towards IDLE, especially when it is implemented to support formal learning. For example, several teachers did not believe IDLE could support English learning (Chik, 2011). Additionally, some of those teachers believed that IDLE should not be included in formal education because it is a part of the students' lives (Toffoli & Sockett, 2015). As a result, in-service EFL teachers lacked enthusiasm for IDLE which supported their opposition to employing technology in English education (Djiwandono, 2019; Drajati et al., 2018)

Nevertheless, the recent EFL PSTs showed different attitudes toward using technology in English education. Some studies have suggested that many of these PSTs had positive attitudes toward using technology in English education. They adopted various platforms, mainly social media, for facilitating formal English learning activities in their teaching practices (e.g., Akayoglu et al., 2020; Baz et al., 2018; Fathi & Ebadi, 2020; Nugroho & Mutiaraningrum, 2020; Park & Son, 2020). Perhaps because these EFL PSTs knew how to use technology for teaching, there is a high level of technology adoption in English education (Park & Son, 2020).

As EFL PSTs' intentions to adopt IDLE to support formal English education are gradually increasing, knowing their attitudes toward IDLE is necessary. However, previous studies did not discuss EFL PSTs' attitudes toward IDLE in detail. Prior research also lacked in-depth discussions of how EFL PSTs, especially those with limited teaching experience, design IDLE to support formal English learning with their prospective students. Exploring this information is crucial to expand the existing literature and provide considerations for those who want to implement IDLE. The aim of this study has therefore been to explore how EFL PSTs with no teaching experience perceived IDLE and their IDLE implementation ideas for their future students' out-of-class activities to support formal classroom instruction. Moreover, the context in this study has been focused on speaking skills since, as previous studies explored, IDLE is often done for developing speaking skills. To guide the exploration in detail, the following questions were posed:

1. How did the English as a foreign language preservice teachers perceive informal digital learning of English to support the development of speaking skills?
2. What informal digital learning of English implementation ideas did the English as a foreign language preservice teachers have to support formal classroom instruction?

LITERATURE REVIEW

Informal Digital Learning of English

Mobile technology, such as YouTube (www.youtube.com), Facebook (www.facebook.com), Telegram (www.telegram.org), has been widely used to teach speaking skills (e.g., Amiryousefi, 2019; Cepik & Yastibas, 2013; Kusuma, 2022; Sun & Yang, 2015). For example, Kusuma (2022) implemented YouTube, a social media platform, to facilitate EFL students' speaking skill development. The students with their smartphones were asked to create speaking videos, uploaded them on YouTube, and provided comments after watching their friends' videos. This example indicates that mobile technology could be used to support formal speaking instruction. On the other hand, mobile technology also provides opportunities for EFL students to conduct English learning in informal settings, known as IDLE.

Defined as "students' autonomous English learning on their initiative in out-of-class, digital contexts" (Lee, 2019b, p. 694), IDLE is a relatively novel phenomenon and a component of digital education. Digital education is a term that refers to educational changes that involve the conversion of a traditional educational system to a digital one via the use of digital technologies (Jie & Sunze, 2021). Digital technology represents not only Web 2.0 technology but also digital learning materials and activities or teaching methods that support digital learning (Harju et al., 2019). Moreover, with more opportunities provided by digital

technology for English learning, English learners are increasingly engaged in IDLE (Lee et al., 2022; Lee & Lee, 2021) for a variety of purposes, such as for form, meaning, (Lee & Dressman, 2018), receptive, and productive skills improvements (Lee & Xie, 2022; Zhang & Liu, 2022).

A large and expanding body of literature has defined the term IDLE over the past decade (Lee, 2019c; Lee & Dressman, 2018; Lee & Lee, 2021; Rahmawati et al., 2019). The first serious discussion of IDLE emerged in the study of Lee and Dressman (2018); they defined IDLE as an independent informal digital learning in correlation to formal which has the potential to address the limitation of teachers' instruction and exposure to the development of the second language. The following year, Lee (2019c) simplified the definition of IDLE by using three key terms: self-directed, self-instructed, and semi-structured digital English learning. In imitation of Lee and Dressman's (2018) fundamental concept, Lee assumed that IDLE is still related to all formal language-related material.

Several keywords are used interchangeably with IDLE in the existing literature review and represent a similar context. For instance, "extramural English" (Sundqvist & Sylven, 2016; Sundqvist & Olin-Scheller, 2013), "online informal learning of English" (Sockett, 2014; Sockett & Toffoli, 2012; Toffoli & Sockett, 2015), and "IDLE" (Lee, 2019b, 2019c; Lee et al., 2022; Lee & Dressman, 2018; Lee & Lee, 2021) denote the extramural digital context to support language learners' language learning. Moreover, IDLE represents students' initiative to enhance language mastery through the unstructured use of digital technology outside the institutional context and is not assessed by a teacher (Lee, 2019c; Lee et al., 2021). For example, language learners can learn English through digital gaming, watching movies and YouTube videos (Lamb & Arisandy, 2020; Lee & Xie, 2022), and talking to experts or others using English on Skype or social media platforms (Lee, 2019c; Lee et al., 2021).

The Implementation of IDLE

To date, several attempts have been devoted to seeking the implementation of IDLE and its relationship with English learning, especially to facilitate the improvement of speaking skills. Sockett and Toffoli (2012) investigated how five French students engaged in their online informal learning of English. They reported that these students watched online English videos, listened to English songs, searched for information online, and chatted with friends on social media. Sockett and Toffoli reported that these students found more opportunities to learn English in real-life situations through doing those activities. Moreover, the students also learned greater English content and vocabulary, which supported their English mastery. Lamb and Arisandy (2020) used a 56-item questionnaire to identify the most and least popular IDLE activities among 308 Indonesian students. These activities included the use of the internet, Websites, Twitter (www.twitter.com), Snapchat (www.snapchat.com), Facebook, Skype (www.skype.com), and YouTube.

Additionally, those activities included listening to English songs, watching English films, talking in English with foreigners, posting in English on social media, and searching for supporting English materials. Lamb and Arisandy also reported that participants who engaged in more IDLE demonstrated a higher level of motivation for learning English. The aforementioned studies indicated that language learners engage in IDLE and consequently make greater improvements in their English learning.

Regarding IDLE activities to support English speaking skill development, previous studies indicate that EFL students did IDLE to acquire linguistic features to support their speaking skills. For instance, Sockett and Toffoli (2012) reported that five French students paid close attention to movie dialogues to learn sentence structures, pronunciations, and new words and expressions. Another example, Sundqvist's (2019) study involving 1,609 respondents and 16 interviewees who played games as their IDLE indicated that they learned a great amount of English vocabulary, which supported their communication in the chat box while playing the games.

Furthermore, previous studies indicated that EFL students communicated with others in English through social media and/or video chatting as their IDLE activities. For example, Lee (2019a, 2019b) found that South Korean EFL students appeared to use Facebook, KaKao Talk (www.kakaocorp.com), and LINE (www.line.me) for communication activities with local friends who lived overseas or native speakers from English-speaking countries. Another example was also shown in Lee and Dressman's (2018) study, where the

participants were reportedly engaged in a variety of IDLE activities on Facebook, including video chatting and writing English-language posts. Lee and Dressman also reported that the diverse IDLE activities contributed to the students' willingness to communicate. Similar findings were echoed in Lee's (2019b) study, which discovered that their participants showed a willingness to communicate in English through social media. Interestingly, Lee also reported that familiarity with interlocutors and communities influenced the participants' willingness to communicate.

Teachers' Perceptions towards IDLE and Implementation Ideas

Considering that many English learners spend more time learning English informally than they do in formal classrooms (Toffoli & Sockett, 2015), IDLE should be embraced by English instructors as a means of strengthening formal English instruction. However, the majority of teachers are perhaps not tech-savvy who mostly began using digital technology, computers, and the internet as adults but did not grow up using them (Prensky, 2001). Therefore, most of them encountered difficulties enhancing innovative digital learning (Jie & Sunze, 2021). For instance, Djiwandono (2019) surveyed 110 English teachers, revealing that most of them found technology integration in the classroom a threat and yielded uncomfortable situations for them. Therefore, the idea of utilizing IDLE to help pupils learn English may not be possible for teachers who have negative attitudes toward technology. There are some plausible reasons why teachers resist using technology in their instruction, such as not being ready to face technology (Drajati et al., 2018), not knowing how to use technology (Mishra & Koehler, 2006), and are more confident using traditional teaching methods in the digital era (West, 2013).

In the past, not all teachers understood how their pupils learned English informally, which activities they had to engage in, which digital technologies to use, or how to use IDLE to support formal English instruction. For instance, Chik (2011) discovered that almost all 34 participants in the study did not believe that IDLE, such as games and online social networking activities, could provide the students with sufficient English resources. This may have been one of the reasons why the majority of participants opposed the use of digital technology in the classroom. In another instance, Toffoli and Sockett (2015) reported that only 21 out of 30 teachers recognized their students' informal English learning. This issue was aggravated by the discovery that only five teachers used IDLE with their students, as the remaining teachers claimed that informal activities were a private part of students' lives and were inappropriate for formal classroom settings. As a result of the aforementioned findings, teachers who may have years of teaching experience but are still adjusting to the use of technology in the digital world need more intention to utilize IDLE to enhance learners' language acquisition.

On the other hand, recent studies show that EFL PSTs who lack teaching experience showed great interest in teaching with technology (e.g., Akayoglu et al., 2020; Baz et al., 2018; Fathi & Ebadi, 2020; Nugroho & Mutiaraningrum, 2020; Park & Son, 2020). For instance, Akayoglu et al. (2020) reported on the use of social media by 113 EFL PSTs in their classroom activities, which indicates that EFL PSTs are more receptive to technology integration. Similar findings also appeared in several studies about the EFL PSTs' openness to integrating technology into their teaching practices (Fathi & Ebadi, 2020; Park & Son, 2020). Regarding out-of-class activities, a few studies have shed some light on the use of social media in these activities. For instance, Baz et al., (2018), through researching 36 EFL PSTs on their teaching practices, discovered that these EFL PSTs implemented Instagram, Skype, Twitter, and Facebook to facilitate the students' out-of-class activities. Unfortunately, little information was found about how those platforms were implemented. In another instance, Nugroho and Mutiaraningrum (2020) reported the use of Instagram to support students' English learning. For instance, one of the 15 participants instructed the students to routinely publish videos on Instagram. As a result of these investigations, it appears that EFL PSTs are more receptive to technology integration than their in-service counterparts. These studies showed that EFL PSTs might have many ideas for implementing technology, especially Web 2.0 platforms, to support English learning. However, those studies did not explain in much detail how those platforms were implemented in IDLE settings to support the formal ones. Thus, a preliminary study to explore EFL PSTs' perceptions and implementation ideas is necessary.

METHOD

Design, Setting, and Context

This study belongs to basic qualitative research to better understand the participants' perceptions and ideas through qualitative methods. The researchers adopted a basic qualitative approach because it provides more freedom when conducting a study without committing to a particular qualitative design (Merriam & Tisdell, 2016). This research was conducted in the Department of English Language Education at a public university in Indonesia. The researchers conducted this study in this department because it had potential EFL PSTs who had sufficient knowledge of teaching English using technology as the participants. Moreover, this department provided their PSTs with a technological pedagogical content knowledge framework, a framework to provide excellent knowledge of teaching a subject matter using technology (Koehler & Mishra, 2005, 2009; Mishra & Koehler, 2006) through the giving of pedagogy, contents, and technology courses in four years of the study program. For instance, they had to enroll in technology course, educational technology course, instructional design and technology course, and other related technology for education courses.

Furthermore, this study was conducted during the pandemic from April to June 2021, necessitating that the researchers performed the research remotely and limited physical contact with the participants following Indonesian government instructions regarding school closures because of the COVID-19 pandemic. Among the many characteristics brought by the Indonesian EFL PSTs, this study concentrated on framing the exploration around the perceptions and implementation ideas of EFL PSTs who were studying at a public university to apply IDLE to support formal classroom instruction.

Particularly, the department allowed the researchers to conduct the research in one microteaching class of 30 EFL PSTs. This course prepared EFL PSTs before having teaching experience in both laboratory settings and with school partners. The course mostly discussed instructional designs, English learning, and instruction in formal classroom settings, including teaching simulations in laboratory settings.

Participants and Researchers

The researchers sought IRB approval prior to recruiting the participants. The researchers sent an electronic Qualtrics consent form and explained the study's purpose, advantages, and risks. During the first recruitment procedure using the purposive sampling technique, only 20 out of 30 PSTs expressed an interest in participating. In contrast, ten others declined due to a lack of prior knowledge of IDLE or an unwillingness to participate. The participants were then selected based on several criteria, including the following: (1) They had used IDLE to aid in the development of their speaking skills, (2) They were enrolled in a microteaching course, and (3) They had no prior teaching experience.

Finally, only 14 participants (12 females and two males between the ages of 20 and 21) fulfilled the requirement, as the remaining six had teaching experience through informal part-time teaching jobs that did not match the study's criteria. In addition, the researchers also recruited the course instructor to collect the data as a triangulation method to confirm students' responses. A WhatsApp group for PSTs was created to facilitate communication. Subsequently, the researchers performed all scheduling interactions through this group. Additionally, online group interviews were conducted in which participants were separated into two interview groups of six and eight persons.

Data Collection and Analysis

The researchers collected the data from various sources, including online interviews with both EFL PSTs and their instructor and the researchers' notes as data/source triangulation (Farmer et al., 2006; Farquhar et al., 2020). The researchers did triangulation to ensure the validity of the research results (Farmer et al., 2006; Stake, 1995). Due to the COVID-19 pandemic, the researchers were unable to meet the participants in person. Instead, the researchers conducted online interviews using Zoom, Google Meet, and WhatsApp. The first group requested to use Zoom, whereas the second group was already acquainted with Google Meet.

Additionally, the researchers interviewed the instructor over WhatsApp video calls. To collect data, the researchers developed and piloted an interview technique that included six demographic questions, eight questions on EFL PSTs' opinions of IDLE, and fourteen questions about their goals and plans for future IDLE activities. All questions had been sent to two experts in educational technology for content and face validity evaluations. The content validity was measured using an inter-rater agreement model proposed by Gregory (2015), yielding 14 valid items. Furthermore, no revisions were given by the experts to the sentences and contents of the interview guide.

The example questions of the EFL PSTs' perceptions of IDLE were "What kind of IDLE have you experienced before?", "How do you think IDLE could help improve speaking skills?" and "What kind of advantages does IDLE provide?". Moreover, the example questions about the EFL PSTs' future IDLE activities for their students were "What kind of IDLE activities would you ask your students to do?", "What kind of technology tools will you ask your students to use and for what purposes?", "What activities would you design for your students' IDLE regarding searching English materials?". Meanwhile, the interview questions for the instructor were only to confirm the participants' responses.

The researchers conducted the interviews in Indonesian to alleviate the participants' nervousness during the data collection. The researchers interviewed the two groups for 120 minutes per session twice a month, and the researchers took notes to support the bracketing approaches the researchers would use in the data analysis. The interviews were then transcribed for analysis purposes, and the transcriptions were shared with the participants to guarantee the data's correctness and reliability.

The data were analyzed using inductive thematic analysis to generate relevant themes (Braun & Clarke, 2006). While analyzing the data, all members carefully reviewed every transcript, making notes on any pertinent information, potential snippets for coding, and potential themes. Prior to comparing our data analysis, the researchers carefully determined the codes and themes connected to the research topic. They also used bracketing techniques to supplement their findings with notes. Then, the researchers compared the analyses, and the inter-coder reliability was 87% (Cohen's $\kappa = 0.87$). Even though they found little differences, the researchers negotiated the discrepancies through discussion. For example, after the discussion, the researchers changed the theme "the advantages of doing IDLE" into "Positive perceptions towards IDLE."

FINDINGS

The overall findings from the 14 participants were summarized to address each of the questions. From the analysis, the researchers found initial five themes and 22 sub-themes. Later, after conducting a thorough analysis, they found four themes, 20 sub-themes, and 232 codes (see Table 1). Their instructor's statements were also presented to confirm the participants' testimonies.

Table 1. Themes and Sub-themes

Themes	Sub-themes
Having experience of doing IDLE	Watching movies / YouTube videos Learning English using applications Searching English materials online Playing games to learn English Listening to music to learn English Using social media to learn English
Positive perceptions towards IDLE	IDLE improves vocabulary mastery IDLE improves pronunciation and fluency IDLE helps to find language expressions IDLE improves learning motivation IDLE supports formal English instruction
IDLE suits the pandemic situation that requires distance learning	

Considerations toward IDLE	Wrong sources can cause wrong learning Students will likely do informal activities than the formal learning Possibility of learning inappropriate English words IDLE cannot guide student learning
Possible IDLE Activities for future students	IDLE for searching information IDLE for searching language expressions and vocabulary IDLE for practicing pronunciation and fluency Using games for students' IDLE

According to the survey, all participants had experienced IDLE during their English studies at high schools or colleges through a variety of activities, either to support formal or informal learning. The accessibility of technology, particularly the internet, has increased students' opportunities to look for any speaking material, and it appears that all participants frequently used technology to seek information on online sources to supplement their knowledge for their courses, especially to support their speaking skills development. For example, Melati said, *"I searched for information for my courses on the Websites or YouTube if the materials given by my lecturers were not clear enough."* The instructor's confession supported this statement that she often asked the students to find other resources and it seemed that they often searched for information from online resources. With abundant learning applications out there, one participant was found to enhance her English learning by learning applications to learn some linguistics features to support her speaking skills development. For instance, Yanti reported, *"I had an experience of using Duolingo to learn English [speaking skills]."* Additionally, the interviews suggested that not all participants experienced IDLE designed to supplement classroom education, where they appeared to gain some informal experiences from their leisure activities. For example, all participants experienced IDLE through watching movies or YouTube videos to learn some language expressions as Delia echoed *"I remember I watched documentary videos and drama series on YouTube with English subtitles."*

Interestingly, only two participants experienced learning English from playing games as Suryani said *"I played games that used English on my smartphone. It helped me improve my English [communication skills]."* Then, the findings showed that only six participants unexpectedly learned English from listening to music because they liked this activity and had been a part of their hobbies. For instance, Rianti improved her English pronunciation by singing English songs and said, *"I often listened to English songs and saw the lyrics. It unexpectedly improved my English."* The existence of social media also seemed to color the participants' experience of English learning, especially for their speaking skills, as Mursia commented, *"I communicated in English with my friends outside Indonesia using Line and Instagram when I was a high school student."*

The interviews also revealed that the participants had positive perceptions of IDLE as it helped advance students' English learning, especially on the linguistics features that build speaking skills. Four out of 14 participants argued that IDLE could improve students' vocabulary mastery through informal learning, as Suryani said, *"I think, IDLE effectively improves someone's speaking skills. For example, someone can enhance his/her vocabulary mastery through watching movies or listening to English songs."* Unfortunately, not all participants assumed that IDLE could advance the students' fluency practices, as only three agreed that IDLE could assist the students in practicing their fluency. For instance, Bagas stated, *"In my opinion, IDLE can help us to improve our fluency. We can focus on finding materials to practice pronunciation and we have many opportunities to use English to improve fluency."* Moreover, it seems that not all participants knew how to make use of technology tools, such as social media, to find language expressions to improve speaking skills. For instance, only three participants deliberately stated that YouTube could work best for this purpose; as Rina said, *"I can find many English expressions on YouTube that help me improve my speaking mastery."* Interestingly, not all PSTs assumed that IDLE could enhance learning motivation, and only three participants believed that IDLE improved it. For instance, Anita mentioned, *"Doing IDLE can sometimes motivate us to learn English because of the comfort and informal learning situations it provides us with."* With all the benefits that IDLE can provide for student learning, the interview results remarkably show that almost all participants perceived that IDLE had the potential to support classroom instruction. The following excerpt is best to illustrate the above explanation:

“I support if IDLE can be implemented to assist the classrooms instruction because most of the time, classroom instruction cannot cover all materials, and the students need to explore them in out-of-class time. Thus, I think IDLE can support formal classroom instruction.” (Melia, female, online interviews, May 2021).

Moreover, during this pandemic time, no wonder that all participants agreed that IDLE suited the situations which required distance learning. For instance, Yanti reported, *“I listened to many students’ [classmates] complaints during the pandemic time and most of them said they were mostly given tasks without being given any learning materials or activities. Thus, IDLE might help the [future] students.”*

As the use of technology in learning has both positive and negative sides, all participants also showed some considerations for IDLE. Two participants raised concerns that inappropriate learning sources could affect the student learning. For example, Delia claimed, *“The students might be exposed to wrong or inappropriate sources. As a consequence, they might develop some misunderstandings towards some contexts.”* Also, it seems that three participants were afraid of how IDLE had the potential to negatively affect formal learning. As Rianti mentioned, *“I think, for some students, they might not know how to properly do IDLE and might have less interest in formal learning.”* The openness of online information, which inevitably contained negative information besides the positive one seems to influence three PSTs’ concerns towards students’ English learning, especially those that dealt with inappropriate English words. For instance, Darsiyah stated her concern by saying, *“Through doing IDLE, the students are likely to be exposed to the use of inappropriate English words or slang language, which is not good for student learning.”* Most importantly, the findings revealed that half of the participants agreed that students needed guidance when doing IDLE. The following excerpt is best to support the above explanation:

“I think, the students might directly apply what they learn from IDLE in real conversation without any filters. Without any guidance from teachers, they might not know what is right or wrong, or they might not know the weaknesses or strengths of their IDLE.” (Arsa, male, online interview, June 2021).

When talking about possible IDLE activities to support formal classroom instruction, the EFL PSTs were eager to convey their intentions and ideas for their future teaching. Most participants thought of Web 2.0 technology tools and learning applications to support their future students’ IDLE activities. The tools that the researchers and the participants had talked about were YouTube, Instagram (www.instagram.com), Google, Google Translate, Google Meeting, Joox (www.joox.com), Wikipedia, Duolingo (www.duolingo.com), Webtoon (www.webtoon.com), TikTok (www.tiktok.com), Facebook, WhatsApp (www.whatsapp.com), Spotify (www.open.spotify.com), Zoom, Hello Talk (www.hellotalk.com), and Line. Furthermore, the participants would use those tools for some purposes, especially to support the development of speaking skills (see Table 2). Interestingly, according to the instructor, the participants often discussed such tools in the microteaching course and described their potential to be employed for educational purposes. In addition, the students also mentioned these technology tools in their assignments about instructional design in this course.

Table 2. Technology Tools and Purposes for IDLE

Technology tools for IDLE	Purposes
YouTube	To search for information about some contents and pronunciations and vocabulary materials; To practice speaking skills
Instagram	To search for information about some contents and pronunciations and vocabulary materials; To practice speaking skills
Google	To search for information about some contents and vocabulary materials
Google Translate (Text to speech feature)	To learn pronunciations
Google Meeting	To practice speaking skills by communicating in English
Joox	To learn pronunciations and search vocabulary materials

Wikipedia	To search for information about some contents and vocabulary materials
Duolingo	To search pronunciations and vocabulary materials; To practice speaking skills
Webtoon	To search for information about some contents and vocabulary materials
TikTok	To learn pronunciations and search vocabulary materials; To practice speaking skills through imitating or mimicking
Facebook	To practice speaking skills through posting, commenting, and communicating in English
WhatsApp	To practice speaking skills through texting and communicating in English
Spotify	To learn pronunciations and search vocabulary materials
Zoom	To practice speaking skills by communicating in English
Hello Talk	To learn pronunciations and search vocabulary materials; To practice speaking skills
Line	To practice speaking skills through texting and communicating in English

During the interviews, all PSTs proposed interesting ideas of how they would design their future students' IDLE to support formal classroom instruction. As mentioned earlier, they all understood that the formal classroom instruction had limited time for material coverage and speaking practices. Thus, IDLE could be the alternative for the students to immerse themselves in informal learning to facilitate the learning process that they could not get at schools because of the limitation of time. According to the instructor, the EFL PSTs never discussed such activities, as microteaching courses mostly discussed formal classroom instruction.

Regarding the IDLE activities, four participants planned to ask their students to use various applications to read digital texts, stories, or Webtoon, watch English videos, and play games to search for new language expressions and vocabulary. For instance, Melia stated, *"I will suggest my students to watch movies and play games as they can learn many language expressions from these sources."* The interview results also suggested that the participants would suggest their future students use some applications to help them practice their pronunciation. With the affordances of text-to-speech and voice recorder applications, eight participants explored many interesting ideas. The following example is best to illustrate the above description:

"I will suggest my students to use Duolingo and Google Translate to learn the pronunciations of some English words. These tools would help them to improve their pronunciations, and once they had possessed the pronunciations, I would ask them to do a podcast in English on YouTube." (Eka, female, Teacher educator, online interview, June 2021)

Regarding using games for IDLE, interestingly, ten participants showed their enthusiasm to ask their future students to do both online and offline games. Nevertheless, they claimed they would ask the students to download learning games or digital game-based learning only. For instance, Rianti said, *"I will suggest my students do both online and offline digital game-based learning to support their English learning at home."* However, the other four participants argued that they did not want their students to play games, even if they were for learning. For example, Melati stated, *"I don't think both online and offline games can support students' language learning. Sometimes games make the students not focus on the courses."*

DISCUSSIONS

To address the first research question, interview findings indicated that EFL PSTs had favorable attitudes toward IDLE. The participants perceived that IDLE could increase motivation for learning speaking skills. This finding is in accordance with what Lamb and Arisandy (2020) had reported that those who are involved in IDLE seem to have better motivation to learn English. Moreover, such motivation is needed during this pandemic era, which requires additional learning activities at home to supplement formal English instruction (Evans et al., 2020). Additionally, participants appear to perceive that IDLE can help enhance speaking abilities through linguistic elements, such as vocabulary, pronunciation, and language expression study and practice. As some studies have reported, linguistic elements contributed to speaking performance (e.g.,

Bhattacharya, 2017; Bohlke, 2014; Brown, 2001; Hinkel, 2006; Huang et al., 2018). Thus, the participants who did IDLE for linguistic element practices, might perceive that this is the way of mastering speaking skills. To support this notion, some studies have shown that students who do IDLE exert better speaking performance (e.g., Lee, 2019b; Lee & Dressman, 2018). It is therefore reasonable to hypothesize that the EFL PSTs' experience with IDLE at high schools and/or colleges influenced their recognition of the benefits of this informal mode of English learning, resulting in positive attitudes towards IDLE.

Moreover, the results above also showed that the EFL PSTs had more positive acceptance towards IDLE than the in-service ones. Thus, these findings conflicted with those of Chik (2011) and Toffoli and Sockett (2015), who reported that in-service teachers were likely more resistant toward IDLE. Furthermore, the findings in this study implied that the EFL PSTs were more open towards technology integration in English learning, supporting previous studies' findings (e.g., Akayoglu et al., 2020; Baz et al., 2018; Fathi & Ebadi, 2020; Nugroho & Mutiaraningrum, 2020; Park & Son, 2020). Even though the participants had no prior teaching experience with technology that would have influenced their attitude toward employing technology in education, their positive attitude toward IDLE may be impacted by the fact that most of the current PSTs know how to use technology for teaching (Park & Son, 2020; Thompson, 2013) because they have grown up with technology (Chris Evans & Robertson, 2020). In addition to the Technological Pedagogical Content Knowledge, they acquired in their teacher education program, they may have developed an understanding of the benefits and positives of IDLE as opposed to in-service teachers, which are largely comprised of immigrants with no prior digital experience and even struggling to use technology in life.

However, participants discussed the difficulties of using IDLE, including how improper sources resulted in incorrect learning and how students could engage in more informal than formal learning. Participants who had implemented IDLE may become more aware of its drawbacks. In this case, it is plausible to argue that the participants' perceptions were not negative towards IDLE, as during the interviews, they did not show any resistance towards IDLE. However, they seemed concerned about implementing IDLE, as participants may have formed a strong sense of pedagogical content knowledge, a knowledge of teaching a subject matter (Koehler & Mishra, 2005; Shulman, 1986), during their PSTs. Thus, they are more sensitive to this knowledge and could identify some considerations to help the student learning (Kind & Chan, 2019).

The participants discussed alternative technology tools for future students' IDLE to address the second research question. The participants found Web 2.0 tools useful in making IDLE fun and interesting for their future students. Perhaps because they were familiar with such tools (et al. Lamb and Arisandy, 2020). Moreover, Kusuma (2021) noted in his study of English teacher education programs in Indonesia that numerous institutions provided PSTs with knowledge of possible teaching tools, including Web 2.0 technology. As a result, it is understandable why the participants in this study advocated Web 2.0 technologies, given their awareness of the potential benefits of such tools for IDLE.

During the discussions with participants about their visions for how those technologies could be used for IDLE, it was discovered that they suggested a variety of intriguing concepts. Interestingly, all of the responses alluded to technological disruptions. Even though they lacked teaching experience with technology-assisted instruction, they were able to generate some ideas for utilizing Web 2.0 technologies for academic purposes. It is possible that because these PSTs were immersed in technology and educational technology courses throughout their studies, their knowledge of teaching English using technology, especially how to disrupt technology for teaching and learning reasons, was strengthened (Kusuma, 2022). This claim is also in line with what other studies perceived that PSTs immersed in technology and educational technology courses might have better knowledge and considerations to implement technology in their teaching practices (e.g., Fathi & Ebadi, 2020; Kusuma, 2023; Park & Son, 2020). Moreover, these participants are perhaps tech-savvy who recognize the affordances of technology for student learning (Park & Son, 2020). As a result, it aided participants in developing a list of possible IDLE activities. Additionally, participants' experience with IDLE was projected to play a role. As a result of their studies and experience with IDLE, individuals may come up with some interesting IDLE ideas, as Thomas et al. (2013) delineated that the teachers' technology integration is mostly influenced by all the knowledge and experience they attained from their teacher education programs. As a result, it makes sense that EFL PSTs in this study, who lacked prior teaching experience, could propose engaging in IDLE activities by disrupting existing technology tools.

As a result of the data above, this article can offer two recommendations to all English educators and teacher education programs on the use of IDLE to supplement conventional English classroom instruction. To begin, it is critical to shift educators' mindsets away from the belief that EFL learning occurs exclusively in the classroom, as the affordances of current technology have significantly increased the options for learning foreign languages outside of the classroom (Kern, 2006; Lamb & Arisandy, 2020; Lee et al., 2021; Xodabande, 2017). Undeniably, many English educators still underestimate their students' informal learning (see Chik, 2011; Toffoli & Sockett, 2015). Meanwhile, many proficient digital learners find classroom instruction is not an engaging place to learn English (Lamb & Arisandy, 2020). Therefore, a changing mindset would influence educators' decisions to implement IDLE to support formal classroom instruction (Lamb & Arisandy, 2020; Toffoli & Sockett, 2015). Fortunately, as demonstrated in this study, participants exhibited favorable attitudes toward IDLE, which may serve as a critical foundation for building the mindset that successful English learning occurs not just as a consequence of formal classroom instruction but also as a result of informal ones.

To gain a thorough understanding of informal learning, IDLE should be integrated into the curriculum of all English teacher education programs as a topic covered in pedagogy courses. Considering that the students are doing IDLE, the EFL PSTs should have a thorough understanding of this type of English learning and how IDLE can be used to supplement conventional classroom instruction. Additionally, a significant challenge for teacher education programs is preparing PSTs who are informed and competent in the area of IDLE (Lamb & Arisandy, 2020). Thus, a thorough understanding of IDLE will assist teachers in maximizing the potential and benefits of IDLE to enhance formal classroom instruction in a manner that facilitates meaningful English learning. Incorporating IDLE materials into pedagogy classes could involve at least three discussions: the notion of IDLE, the technology tools that support IDLE, and feasible IDLE activities that supplement traditional classroom instruction. As revealed in this study, the EFL PSTs had interesting ideas on IDLE activities, including the possible technology tools they would use for their implementation. Kusuma (2021), in his research about teacher education programs, reported that many instructors did not know what technology tools to provide their PSTs. Thus, understanding the technology tools that PSTs frequently utilize should serve as a solid starting point for instructors in selecting useful tools for formal and informal learning. As instructors with pedagogical experience and PSTs who are familiar with the present learning environment using technology, they can explore the benefits and drawbacks of utilizing such tools for both formal and informal learning. They could continue exploring potentially engaging IDLE activities to supplement traditional classroom instruction.

CONCLUSIONS

In conclusion, this article sheds some new light on the attitudes of EFL PSTs about technology integration. The findings indicated that EFL PSTs had positive perceptions regarding IDLE, especially in developing speaking skills, which may provide a solid foundation for incorporating this style of learning into students' language learning processes. Additionally, despite their lack of teaching experience, the EFL PSTs recommended a variety of technology tools, particularly Web 2.0 technologies, to facilitate engaging IDLE activities to enhance their future students' speaking development. These findings contribute to our understanding of how EFL PSTs who know how to use technology for teaching view technology integration positively and may envision some informal learning practices that could be facilitated by technological disruption.

Nonetheless, this study has several areas for improvement. This study examined pre-service EFL teachers' perceptions of IDLE implementation for their prospective students. Our participants, on the other hand, were those who had not yet undertaken practice teaching. Thus, a study involving PSTs currently engaged in or have previously engaged in practice teaching may be needed. Specifically, to learn about their experience developing and integrating IDLE into their formal classroom instruction, as well as the difficulties encountered during implementation. In addition, this study focused exclusively on EFL PSTs and excluded their in-service counterparts, many of whom were digital immigrants. A further study should address the shortcomings identified in this study to add to the body of knowledge about English language teaching, particularly IDLE.

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BIODATA and CONTACT ADDRESSES of AUTHORS



Dr. I Putu Indra KUSUMA is an associate professor at the English Language and Education Department of the Universitas Pendidikan Ganesha, Indonesia, where he has been a faculty member since 2014. Indra's current research focuses on mobile-assisted language learning, social media-assisted language learning, and teacher professional development. Having authored and co-authored articles in various relevant journals and book chapters, he highly appreciates being able to contribute actively to research literature in these areas.

I Putu Indra KUSUMA
English Language & Education Department
Address: Universitas Pendidikan Ganesha, Jl. Udayana No.11, Banjar Tegal, Singaraja, Kabupaten Buleleng, Bali 81116, Indonesia
E-mail: indra.kusuma@undiksha.ac.id



Dr. Ni Luh Putu Eka Sulistya DEWI is an associate professor at the English Language and Education Department of Universitas Pendidikan Ganesha, Indonesia. Dewi's current research focuses on English language education, including sub-topics like language assessment, media and material development, and teaching english for young learners.

Ni Luh Putu Eka Sulistya DEWI
English Language & Education Department
Address: Universitas Pendidikan Ganesha, Jl. Udayana No.11, Banjar Tegal, Singaraja, Kabupaten Buleleng, Bali 81116, Indonesia
E-mail: sulistia.dewi@undiksha.ac.id



Dr. A.A. Gede Yudha PARAMARTHA is an assistant professor at the English Language and Education Department of the Universitas Pendidikan Ganesha, Indonesia. The current focus of Yudha's research is English language education, including language assessments, TESOL, and technology-enhanced language learning. While he is an expert in quantitative analysis, he is expanding his expertise to include qualitative studies.

A.A. Gede Yudha PARAMARTHA
English Language & Education Department
Address: Universitas Pendidikan Ganesha, Jl. Udayana No.11, Banjar Tegal, Singaraja, Kabupaten Buleleng, Bali 81116, Indonesia
E-mail: yudha.paramartha@undiksha.ac.id

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