A Pre-Service Teacher Experiences of Creating Vocabulary Quizzes for EFL Adult Learners: the ACTIONS Model

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ABSTRACT
IDLE (Informal Digital Learning of English) is a worldwide phenomenon that represents one of the most significant advances in autonomous language learning outside the classroom in recent decades. This study examines the experiences of IDLE activities based on the ACTIONS model (Access, Cost, Teaching and learning, Interactivity and user-friendliness, Organizational issues, Novelty, and Speed) which focused on vocabulary. The results of the study are intended to be a self-reflection on the factors involved in creating English vocabulary quizzes on Instagram as IDLE sources for higher education students. The study aims to use social media, especially Instagram, as a learning tool in a digital context. The researcher uses written narratives that contain her experiences in creating such English vocabulary quizzes. For that reason, the study participant is the researcher herself, a 21-year-old female undergraduate student in the English Education Department. In the study, the researcher uses thematic analysis to analyse the narrative data. This includes three activities: 1) repeated reading of the data; 2) coding and categorising the data extracts; and 3) recognising the thematic headings. The results show that creating IDLE activities based on the ACTIONS model leads to flexibility of access, affordable costs, teaching and learning needs based on followers’ feedback and correction, excellent interactivity and user-friendliness, organisational issues, novelty, and speed. The study offers new insights into how English pre-service teachers’ engagement with IDLE serves as a significant factor in their future teaching tasks.

1. INTRODUCTION
In this era, students have various ways of learning. Technology has rapidly spread all over the world, so most people around the world have access to digital devices. The new digital pedagogical approach to learning knowledge and skills is informal. Lee (2017) refers to this as Informal Digital Learning of English (IDLE). Lee and Lee (2018) explain that IDLE is self-directed, naturalistic, digital learning of English in unstructured, out-of-class environments and is independent of formal language settings. In other research, Lee and Dressman (2017) state that the concept of IDLE is based on autonomous learning, using many different digital devices (e.g., smartphones, Play Stations, MP3, TV, PC) and resources (e.g., blogs, YouTube, Twitter, Instagram, online games, etc.). This definition of IDLE suits students’ daily life. Digital devices and resources are tools for practising language outside the classroom.

English is the most widely used worldwide language as a result of globalisation. As a result, many people nowadays consider strong English skills to be essential. The rapid proliferation of wireless networks and mobile devices has made English learning in a mobile learning context popular in recent years. Many studies have developed mobile English learning systems to aid the study of English vocabulary any time and from any location (Chang & Hsu, 2011; Chen & Chung, 2008; Chen & Hsu, 2008; Chen & Li, 2010; Chen & Tsai, 2010; Cheng, Hwang, Wu, Shadiev, & Xie, 2010; Oberg & Daniels, 2013). Technology has aided the development of learning tasks, particularly language learning, easier. Social media is one of technology’s support components. According to Dewing (2010), it is a broad category of web-based and mobile services that enable users to participate in online conversations, contribute to user-generated content, and form online communities.

Throughout the past decade, CALL research has presented data on the relationship between L2 vocabulary learning and extramural language learning over mobile devices (Stockwell, 2010), Short Message Service (Cavu
& Ibrahim, 2009; Hayati, Jalilifar, & Mashhadi, 2013; Lu, 2008) and social media (Sockett & Toffoli, 2012). IDLE research on digital games and L2 vocabulary acquisition has been proliferating in European countries. As found by Olsson (2011), Swedish teens who most frequently experienced out-of-school extramural English (EE) activities (mostly digital games) achieved the highest scores in their English writing assignments and used deeper and better English vocabulary. This finding is in line with other studies (Sundqvist, 2009; Sylvén & Sundqvist, 2012), which show that repeated EE activities (mostly digital games) are closely associated with better L2 English vocabulary acquisition. In addition, a recent study of IDLE in Indonesia was conducted by Lee and Drajati (2019). They found that IDLE practices and affective variables were significantly related to students’ willingness to communicate. However, the term ‘IDLE’ is currently in its early stages. As a result, there have been few related studies, particularly ones focusing on skills or practice. This means that no study of extramural English activities related to quizzes on Instagram as IDLE sources for higher education students has been conducted to date.

Based on this gap, such study needs to be conducted in this digital era in Indonesian society. Therefore, this work explores a pre-service teacher’s experiences of creating extramural English vocabulary quizzes on Instagram as IDLE learning sources.

2. THEORETICAL FRAMEWORK

ACTIONS Model for Developing English Vocabulary Quizzes on Instagram as IDLE Sources

Young people can now make good friends using technology, and take part in socialising in a digital world (Ito, M., Horst, H. A., Bittanti, M., Herr Stephenson, B., Lange, P. G., Pascoe, C. J., & Robinson, L., 2009). Over 90% of Americans aged 18-29 possess mobile devices such as smartphones, laptops, tablet computers, etc. and access social networking sites (Rainie, 2016). This has also significantly influenced how students learn (Prensky, 2001; Bennett, Maton, & Kervin, 2008). Junco (2012) states that social media plays a role in improving higher education students’ academic results.

Designing, acquiring, and implementing technology for teaching and learning is one of the most challenging issues in higher education today. The rapid advance of technology has forced educators to stay abreast of developments. However, technology can be either good or bad, depending on how it is used. Bates (1995) proposes the ACTIONS model as a decision-making framework for evaluating technology in terms of learner accessibility, cost structure, teaching and learning application, interactivity and user-friendliness, organisational impact on the educational institution, novelty, and the speed with which courses can be developed for the technology. The model comprises:

a. **Access**: how accessible is it for learners?

b. **Cost**: what is the cost structure of each technology?

c. **Teaching and learning**: what kinds of learning are needed? What instructional approaches will best meet these needs?

d. **Interactivity and user-friendliness**: what kind of interaction does this technology enable? How easy is it to use?

e. **Organizational issues**: what are the organizational requirements and barriers to remove before the technology can be used successfully?

f. **Novelty**: how new is the technology?

g. **Speed**: how quickly can the technology be used to mount courses?

ACTIONS encompasses a set of critical questions that teachers need to ask before using certain technology for education and training purposes. These aspects are helpful in analysing whether or not teachers should experiment with a particular technology. For example, Bates (1995) suggests that technology-driven media can enable flexible, career-oriented learning in various locations, including the office, study groups, and the home. This is related to the IDLE (Informal Digital Learning of English) concept, which is flexible and can be undertaken in various locations. Previous research (Lee, 2018; Lee & Kim, 2014; Sackett & Toffoli, 2012) has suggested that IDLE activities can take place outside of the classroom, in media-rich environments such as the home, public transportation (e.g., bus and metro), and café or restaurant settings. In other words, by participating in IDLE activities, EFL students could maximise their learning chances outside of the language classroom.
Although this aspect of CALL inquiry is still at its initial stage, the recent literature presents mixed results on the effectiveness of IDLE in language learning. Supported theoretically by concepts of incidental language learning (Schmidt, 1994), learner autonomy (Holec, 1981), and informal language learning (Benson, 2011), IDLE (Lee, 2017) can be theorised as self-directed, informal English learning suitable for a variety of different digital devices (e.g., smartphones, PCs, tablet computers) and resources (e.g., websites, social media). However, Burston (2014, 2015) and Sung, Chang, and Yang (2015) claim there are no significant effects of mobile language learning in informal settings. On the other hand, other studies found a positive relationship between IDLE and L2 outcomes, such as in reading and listening (Sylvén & Sundqvist, 2012), speaking (Mittra, Tooley, Inamdar, & Dixon, 2003), writing, (Sun et al., 2017), vocabulary (Jensen, 2017; Sundqvist & Wikström, 2015; Sylvén & Sundqvist, 2012), and formal testing (Lai, Zhu, & Gong, 2015; Sundqvist & Wikström, 2015).

IDLE is categorised into two domains: extracurricular and extramural. The former implies a semi-autonomous L2 activity in an out-of-class digital setting that a formal language teacher still organises. In other words, it refers to students’ willing autonomous English learning in an out-of-class digital context, which is still assessed by a teacher (Lee, 2019). The latter refers to an autonomous L2 activity in an out-of-class digital setting which is unrelated to formal language instruction (Lee, 2019). It is different to IDLE in the extracurricular context in that the teacher is not involved in the students’ behaviour. In other words, it implies that EFL students are taking part in autonomous English learning in digital, unstructured, out-of-class settings that are not allied to a formal institution and not assessed by a teacher. For example, L2 students may independently join Facebook, Instagram, or Twitter comment sections in English to be involved with other learners.

This study focuses on IDLE in the extramural context of Instagram development of English vocabulary quizzes. As stated previously, this idea comes from the researcher’s experiences of creating such quizzes on Instagram. Initially, this was just for fun, until it began to attract positive feedback from her followers. Therefore, the researcher began to create English vocabulary quizzes for her followers as a learning resource. In addition, the researcher believes that vocabulary is a significant aspect of language acquisition. According to Nation (2013) and Willis and Ohashi (2012), vocabulary is a fundamental component of any language, and so is a vital element of second language (L2) acquisition.

Vocabulary knowledge affects both receptive skills (reading and listening) and productive ones (speaking and writing) and shows a critical success of general language proficiency (Alderson, 2007; Laufer & Goldstein, 2004). L2 learners admit that a lack of vocabulary causes them difficulties in acquiring, comprehending, and using the language (Nation, 2013). According to González-Fernández and Schmitt (2020), vocabulary acquisition refers to all the processes concerned with learning lexical items (i.e., single words and formulaic language) in great depth in order to use them both productively and receptively help of multiple incidental and intentional encounters with these items in various contexts.

Studies have observed that L2 students’ vocabulary knowledge embraces familiarity with a series of words, obtaining many types of knowledge about each word, and finding connections between multiple lexical items to build semantic networks (Cremer, Dinghoff, Beer, & Schoonen, 2010). However, it is still not clear how vocabulary is stored and processed in the lexicon. Furthermore, it is acknowledged that all words are interconnected in multiple ways, so learning one lexical item influences the learning of others (Meara & Wolter, 2004). Therefore, to have complete knowledge of a word, making a rich and interrelated mental lexicon that supports more rapid, comprehensive, precise networks among words (Cremer et al., 2010). Nevertheless, investigating the connections between words is a complex and challenging task.

Since the knowledge of words is acquired through many language experiences, such as explicit instruction and incidental exposure (Schmitt, 2008), their acquisition is not a static process. More accurately, word knowledge is a dynamic process that constantly changes and develops, meaning that the acquisition of a word goes through different phases until all the related elements (such as form-meaning mapping, collocational information, and word parts) are understood (Fitzpatrick, 2012).

Based on the definitions above, vocabulary can be defined as one of the essential components of language proficiency, including receptive skills (listening and reading) and productive ones (speaking and writing). Vocabulary acquisition is about learning single words, understanding each word, and connecting multiple lexical items to semantically build a language system. The more incidental and intentional encounters with lexical items in various contexts, the more vocabulary knowledge learners will have.
3. **METHOD**

This is qualitative research using a narrative inquiry. The study participant is the researcher herself, a 21-year-old female undergraduate student in the English Education Department. In the study, she used written narratives containing her experiences in creating English vocabulary quizzes on Instagram as IDLE sources. As stated by Barkhuizen, Benson and Chik (2014), some scholars have highlighted that the main strength of narrative inquiry lies in its focus on how people use stories to understand their experiences in the areas of inquiry in which it is essential to understand phenomena from the perspectives of those who experience them. The purpose is to attain a detailed story of experiences and understanding of the entity (the theme). In narrative research, there are two common approaches: biographical and autobiographical.

In this study, the researcher used an autobiographical approach, which meant she analysed or told her own stories in three diaries. These comprised the primary data for this research. The diaries were written based on the quiz topic. They consisted of the past, present, and future of creating English quizzes on Instagram. To support the primary data, the researcher provided screenshots as artefacts.

Thematic analysis was used to analyse the narrative data, as suggested by Barkhuizen, Benson and Chik (2014). It includes three activities: 1) repeatedly reading the data; 2) coding and categorising the data extracts; and 3) recognising the thematic headings. Good thematic analysis always requires repeated reading of the data and several rounds of analysis, in which the researcher goes back and forth between the data and its coded and categorised forms to perfect themes and theoretical relationships. The data were analysed based on the ACTIONS model and IDLE research instrument.

4. **RESULTS AND DISCUSSION**

**RESULTS**

This chapter presents the research results and discussion. The themes in this section result from careful coding of the data set by thematic analysis, which was intended to explore the stories of the researcher's extramural English activities in a digital context (social media). The themes below are based on the framework proposed by Bates (1995) in relation to the ACTIONS model.

**Bates’ ACTIONS Model**

1. **Access**

   This concerns how accessible a particular technology is for learners and its flexibility for a particular target group. The findings show that creating an Instagram account is easy and free. No subscription is needed and it allows flexibility of access, either in or outside of class, using a smartphone (virtually anytime, anywhere).

   *It is accessible for people to open Instagram. People must have an Instagram account to access it. It is easy to create an Instagram account by email or phone number. Besides, people can create an Instagram account using their Facebook account. Speaking of my English quizzes on Instagram, followers can have access from home or their institution. Instagram allows flexibility of access, either in class or outside of class, almost anytime, anywhere. It is also easier for participants to use Instagram on their mobile devices.*

   (Pre-service teacher, 2019, in a boarding house)

2. **Cost**

   Teachers should consider the unit cost per student when they wish to try a particular technology. Instagram is still affordable to obtain and run; it is just necessary to download it from the Play Store for Android or the App Store for iOS. It is good that downloading Instagram is free, although a data plan or Wi-Fi connection is needed to run the app.

   *Creating an Instagram account is free. People can open and do the English quizzes using their smartphone, but they must have a data plan. It is not expensive to make English quizzes on Instagram stories because I have a smartphone and a monthly data plan. Nowadays, the prices of smartphones are*
affordable based on the series. Most people of all ages own a smartphone. Data plans depend on the provider, and the amount of data people buy.

(Pre-service teacher, 2019, in a boarding house)

3. Teaching and learning

This section discusses what kinds of learning are needed, what instructional approaches will best meet these needs and the best technologies for supporting such teaching and learning. For example, Instagram can support teaching and learning needs from followers' requests and feedback. Another finding is that followers' correction allowed the researcher to learn and recheck before posting the quizzes.

There is some positive feedback from my followers, such as 'Please make more quizzes like these,' 'Go on,' 'more more more,' 'Thank you, I learned a lot from these quizzes even though I still made mistakes,' 'Please make quizzes before exams,' 'Create more content like these, pretty good for learning English,' and many more.

(Pre-service teacher, 2019, in a boarding house)

I typed the word 'weather' in the wrong order 'waether'. Then, one of my followers, HL (acronym for a follower's username in Instagram - Editor), slid into my Direct Message (DM) and told me there was a typo in my quiz, which might happen because I was in a rush while typing the quiz. That was true. I typed the items quickly because I typed them one by one. However, I thought I had to recheck what I had typed to make sure there were no typos next time. Another follower, NT, slid into my DM, telling me I mistyped a word. The item showed a past tense sentence, but I wrote the multiple choices using the present tense. For example, the answer was 'saw,' but I wrote all the multiple choices in the present tense 'see,' 'watch,' 'look.' I realized that she was right, and that I should be more careful next time. She also said that it might be because I was in a hurry.

(Pre-service teacher, HL & NT, 2020, in a boarding house, on Instagram)
4. Interactivity and user-friendliness

This section explains what kind of interaction Instagram enables and how easy it is to use. It contains features to make English quizzes, such as a quiz sticker, question sticker, poll sticker, and pictures. As the quiz creator, the researcher can see each follower’s answers to the quiz. Moreover, Instagram has direct messaging to receive followers’ questions and respond to their answers.

*Instagram has many features that can be used for creating English quizzes. The researcher has tried some of these, such as a quiz sticker, question sticker, and pictures. For the quiz sticker, followers just need to click on the choices provided. Then, they will directly know whether they get the correct answer or not. They will see a checkmark and green display when they have given the correct answer. When they get the wrong answer, they will see a cross mark, a red display, and key answer. For the question sticker, followers need to type the answer in the column provided. However, they cannot know whether they have given the right or wrong answer. There is no particular display on the quiz sticker. Therefore, I respond to their answers via DM one by one. The next day, I sometimes give a brief explanation of each item on my Instagram story for clarity. Then, I post their answers on my Instagram stories for everyone.*

(Pre-service teacher, 2019, in a boarding house)
5. Organisational issues

This section deals with the organisational barriers that may need to be faced before a particular technology can be used successfully. In fact, no barriers were found before using Instagram to develop English quizzes. This can be seen in the following diary excerpt.

*I didn’t have any barriers before using Instagram to develop English quizzes. Also, I am not connected to a particular organization or institution in making English vocabulary quizzes on Instagram. In other words, no individual forces me to do it. Moreover, the ease of access and interactivity also influences the flexibility of using Instagram.*

(Pre-service teacher, 2019, in a boarding house)

6. Novelty

Instagram was launched in October 2010. Therefore, it is not considered a brand new technology. However, it also means that it should be easy to use for people worldwide.

*Instagram was launched in October 2010. It has been around for some time and has a large user base. So, it ought to be available and replicable around the world. In other words, everyone can easily have Instagram for any purpose. Therefore, people will not find it challenging to use it.*

(Pre-service teacher, 2019, in a boarding house)

7. Speed

This is about how quickly this technology can mount and how quickly materials can be changed. Instagram is able to include stories by adding a brief introduction, posting the quizzes, and saving the highlights. Instagram highlights are beneficial because stories expire after 24 hours. Therefore, highlights are helpful when the researcher and followers want to look back at the quizzes at any time.

*It is speedy. I usually added a brief introduction about a specific topic before jumping right into the quizzes. Once I was ready with the intro, I straightaway posted it on my Instagram story. The next step was to post the quizzes one by one. After all the quiz items were posted, they would expire after 24 hours. Twenty-four hours is not long. Therefore, I had to save all of the quiz items on my Instagram highlights so that my followers and even I could look back to them again any time we wanted. When 24 hours have passed, making other quizzes with different topics is possible.*

(Pre-service teacher, 2019, in a boarding house)
DISCUSSION

This discussion section addresses the all theoretical and practical implications summarised from the findings. Social media has many impacts on students’ learning experiences. It comprises platforms that can help student teachers learn and practise their active English; for example, providing English vocabulary quizzes on Instagram. The findings of this research on Bates’ (1995) ACTIONS model indicate that Instagram can be a medium that is able support a learning process. Pre-service teachers and learners can easily access it if they already have an account. Those who do not have an Instagram account can create one using email or phone numbers or link it to their Facebook account. There is no subscription, so it is free to use. Instagram also allows flexibility of access, either in or out of class, using a smartphone (almost anytime, anywhere).

Because of the rapid advance sand expansion of digital technology capabilities, it is now possible to use and generate content in English at any time and from any location, resulting in various learning opportunities (Lee & Lee, 2020). These possibilities can potentially change the “face of language learning” for the better (Richards, 2015). Today’s EFL students are increasingly absorbing and utilising English informally through a variety of digital resources, including social media, virtual communities, language study apps, and large multiplayer online role-playing games (MMORPGs) (Dressman & Sadler, 2019; Lai, 2017; Sauro & Zourou, 2019; Sökeett, 2014; Sundqvist & Sylvén, 2016). This is related to the tenets of IDLE (Lee & Lee, 2020), which uses self-directed English activities in informal digital settings, motivated by personal interests and undertaken independently without being assessed by a teacher.

Another consideration is cost. It is relatively affordable to obtain and run the app. It is simply necessary to download it from Play Store for Android or the App Store for iOS. It is also free to download the App. To run the app, you need a data plan or wi-fi connection. Nowadays, most people own a smartphone and monthly data plan, so the cost is reasonable.

Regarding the third aspect of the ACTIONS model, which is teaching and learning, Instagram can support their needs from followers’ requests or feedback. Their feedback shows that they tend to enjoy learning English through the platform. Moreover, followers’ correction also allows the researcher to learn herself and recheck before posting the quizzes. Lee and Lee (2020) state that IDLE activities can be possible ways for students to have pleasant emotional experiences in English learning. Teachers can observe and note types of IDLE activities their students are already engaged in (e.g., watching YouTube clips in English or chatting with others via social media) and design and integrate such IDLE-embedded activities into in-class or out-of-class assignments because students primarily structure and implement IDLE activities.

Related to interactivity and user-friendliness, Instagram has features to make English quizzes, such as a quiz sticker, question sticker, poll sticker, and pictures. From the quizzes, the researcher, as the quiz creator, can see each follower’s answers. To respond to these, a Direct Message can be used. Another Direct Message function allows the researcher to receive followers’ questions about the quizzes. Several studies have examined the concept of learning or perceptions of learning arising from social media, including ones on technological competence (Dymoke & Hughes, 2009; Salminen et al., 2016) and academic skills (Dymoke & Hughes, 2009; Kiliç & Gökdaş, 2014; Kivunja, 2015; Wheeler & Wheeler, 2009). Social constructivism highlights the concept of learning or perceptions of learning which rely mainly on a sense of community (Kiliç & Gökdaş, 2014), in which participants are encouraged to collaborate, share, discuss, and challenge ideas and beliefs. The researcher has found Instagram to be useful for such activities by providing question stickers for sharing. This feature allows the
researcher to learn English from her followers in a process of knowledge sharing. First, the researcher shares English quizzes. Then, she adds a question sticker for her followers to share their knowledge. Subsequently, the researcher responds to what has been shared by her followers. In responding, she continuously learns something new from her followers. Overall, the interactivity and user-friendliness of Instagram are excellent.

Surprisingly, the researcher has not found any barriers to using Instagram for developing English quizzes. The ease of access and interactivity support the process. In addition, the researcher is not connected to a particular organisation in developing English vocabulary quizzes on Instagram. In other words, she is not forced to do it. This means no organizational issues are involved. The next aspect concerns novelty. Instagram was launched in October 2010. Therefore, it is not considered a brand new technology, which means it should be easy to run for people worldwide. With regard to the final aspect of the ACTIONS model, speed, Instagram can include stories at one time by adding a brief introduction, posting the quiz items, and saving them on the highlights. However, Instagram stories will expire after 24 hours. That is why the researcher saves the quizzes on the highlights so that she and her followers can look back at the quizzes again anytime. However, Instagram is not yet perfect in comparison to other teaching and learning platforms, such as Kahoot, Quizizz, Moodle, Microsoft Teams, and others. Even so, Instagram can be an option to be used in or out of the classroom. Other factors include the impact on practice, as participants showed pre-service teachers would integrate similar tasks into their teaching in the future (Bravo & Young, 2011; Fisher & Kim, 2013).

5. CONCLUSION

This research shows that Instagram can be an option for teaching and learning in or out of the classroom. Based on the ACTIONS model, it is a platform that should be tried, although it is not a perfect educational platform, such as Moodle, Kahoot, Microsoft Teams, etc. However, there are some considerations as to why pre-service teachers should experiment with Instagram to support their teaching and learning. First, it is a question of access. The creation of an account is easy and free, and the platform allows flexibility of access anytime, anywhere using a smartphone. This is also related to the concept of IDLE, which also underlines the flexibility of access. Second, the costs to run Instagram are relatively affordable. Third, in relation to teaching and learning, Instagram can help pre-service teachers fulfill followers’ learning needs online. Moreover, it has several features that facilitate good interactivity. Therefore, the researcher has not found organisational issues when using Instagram for developing English quizzes. In terms of novelty, Instagram is not a brand new technology, so learners are already familiar with it. The final consideration is that Instagram allows quick inclusion of materials. This research implies that creating IDLE activities on Instagram for higher education students is an experience that can inform the researcher’s future career. She believes that social media activities can be brought to the classroom, especially using Instagram. Social media activities can be used as a variation in learning in the classroom so that students do not become bored. Moreover, the researcher also considers social media, especially Instagram, to be a learning memoir for what has been learned. As a pre-service teacher, the researcher can practise her ability to produce English items, utilise Instagram as a learning platform, and use certain Instagram features that attract more followers.

This study suggests that teachers can encourage and promote the use of social media in their future careers. Therefore, higher education pre-service teacher courses should actively teach social media usage. The researcher also hopes that students can learn English autonomously by using social media, such as Instagram, Facebook, Twitter, and TikTok, among many others. Students can also practise and share their English knowledge using their social media. Finally, the study could help further research. Other researchers could use the results of this research, which present a narrative study of a pre-service teacher’s perspectives, in future IDLE studies. In addition, future researchers could consider pre-service teachers’ perspectives and the English context when conducting IDLE research.

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