Smartphone apps as a motivating tool in English language learning

Nagaletchimee Annamalai[1], Muhammad Kamarul Kabilan[2], Deepa Soundrarajan[3]
[1,3]School of Distance Education, Unviersiti Sains Malaysia 11800 Penang, Malaysia
[2]School of Educational Studies, Unviersiti Sains Malaysia 11800 Penang, Malaysia

ABSTRACT
Since smartphones are getting cheaper, sophisticated, and multifunctional, there are opportunities for learners to engage in more meaningful English language learning. This study employs a mixed-method research design, with the purpose of identifying the use of English language apps outside the classroom and depicting students' English language apps use behaviour i.e. motivation from the Self-Determination Theory (SDT). The findings show that students use the apps related to grammar the most and followed by English apps related to speaking, reading and, vocabulary. Findings also reveal students in this study display three types of motivation from the perspective of SDT i.e. autonomy, competence, and relatedness. Based on the findings, a model of Pedagogical Considerations of Using Smartphone for English Language Learning (PCUSELL) is suggested. As a conclusion, the authors suggests that educators in higher educational institution educators should consider the potential of smartphone English apps in their teaching and learning activities, particularly in this new normal of teaching and learning i.e. epoch of the COVID-19 pandemic.

Keywords: Apps; Mobile-Assisted Language Learning; smartphone

INTRODUCTION

Mobile phones before 2007 only carried software that was provided by the device. However, this changed with the arrival of smartphones as they included software applications commonly known as apps (Rosell-Aguilar, 2017). The availability of apps has provided many possibilities to learn at any time anywhere with greater learner autonomy and self-paced learning programs (Burston, 2014; Godwin-Jones, 2011; Rosell-Aguilar, 2017). As for language learning, García Botero et al. (2018) describe the fleet of language learning applications that suggest mobile learning's potential benefits in this context. Empirical studies have reported on positive outcomes towards reading and grammar skills (Liu et al., 2013), vocabulary skills (Ketyi, 2015), autonomous learning (Rosell-Aguilar, 2017),

learner engagement (Rosell-Aguilar, 2018), personalised learning (Steel, 2012)**,** and translation activities (Steel, 2012). In fact, low achieving students have used mobile apps to practice their language skills in the virtual environment to communicate effectively in face-to-face interaction (Sandberg et al., 2011).

Despite the popularity and adoption of smartphone apps for language learning, its effectiveness in higher education largely depends on students' attitude**s** and facilitating conditions as these applications are usually used outside of class (García Botero et al., 2018). Mekhzoumi et al. (2018) observe that students would abandon language learning apps that are not infused with motivation elements. The students will only continue using a mobile learning tool if it benefits

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* Corresponding Author
Email: naga@usm.my

them in terms of learning languages (Steel, 2012), supports their learning (Farley, et al., 2015)**,** or facilitate them to achieve their learning goals (Ozer & Kilic 2018). We concur with Farley et al.'s (2015) view that "understanding of how students are supporting their learning" using the mobile apps may prompt "educators to examine the way their courses and programs are delivered" (p. 11) and use smartphones to engage and enrich students' various language skills in a meaningful manner (Nami, 2020), leading to quality teaching and learning.

Several studies reflect the above tenet of motivation and smartphones. For instance, Leis et al. (2015) examined the effects of using smartphones in the classroom and found that students tend to be autonomous in language learning. Nevertheless, the elements of motivation were not exclusively highlighted as an outcome of smartphone use for language learning but rather the motivation to use the smartphone. Similarly, Barrs (2011) observed the students' willingness to use and actual usage of smartphone for language learning, and not on motivation as an outcome of its use. The reason for this is because for users (i.e. students), the design of a smartphone is important for them to "continue learning beyond the formal institutional setting" (Godwin-Jones, 2017, p. 10). Such continuous learning presents the opportunity for teachers to "leverage those digital devices and online experiences to enable and encourage in our students' life-long learning, learner autonomy, and critical digital literacy" (Godwin-Jones, 2017, p. 13).

Therefore, in this study, we will focus on the use of smartphone and the language skills that students were engaged with, as well as the motivation aspects and challenges experienced by the students. The specific research questions are:

1. What are the language learning skills that students were engaged with during their use of smartphone language apps?
2. What are the motivation aspects experienced by the students during their use of smartphone apps?
3. What are the challenges experienced by students during their use of smartphone apps?

The Findings of this study would enable educators to develop more meaningful learning and teaching practices via smartphone apps. Newman and Beetham (2017) point out that smartphones are often viewed as a convenient tool rather than a useful pedagogical tool. Therefore, without a clear vision of how learners use smartphone apps for English language learning, it is challenging to identify effective learning apps consistent with how students learn. Furthermore, there has been limited research on how apps enhance English language learning, particularly in Malaysian higher institutions. Existing studies on language learning apps are limited to intervention studies and are mostly led by researchers and practitioners with limited sample size (Rosell-Aguilar, 2018) or treatment time (Ma, 2017). By using only particular apps initiated by educators, research has overlooked language learning skills. Similarly, most mobile-assisted language learning (MALL) applications mainly focus on vocabulary and speaking skills and overlook the importance of writing and grammar learning (Mekhzoumi et al., 2018).

Theoretical Perspectives
Self-Determination Theory (SDT) is the framework utilized in this study as it focuses on motivation and the psychological needs of learners. SDT details two types of motivation: intrinsic and extrinsic motivations (Deci & Ryan, 1985). Intrinsic motivation is concerned about students' willingness to carry out certain activities because they are interesting, fun, and enjoyable. In contrast, extrinsic motivation is driven by rewards or gifts or to avoid punishment. Previous studies had shown that learners' motivational levels increased especially when mobile learning (Al-Azawei & Aloyar, 2020), flipped classrooms (Zainuddin & Perera**,** 2019), and cloud base learning (Chang, 2019) are applied. Motivation is concerned about energy, direction**,** and persistence that drives humans to act and geared towards a goal (Harmon-Jones & Price, 2013).

Another sub-theory of SDT is the three innate psychological needs: autonomy, competence, and relatedness (Ryan & Deci, 2000). Competence is illustrated as the desire to be effective when dealing in an environment while relatedness refers to the universal propensity to interact and experience working with other people (Deci & Ryan, 2008). Autonomy is concerned about people's universal urge to causal agents, experience volition, and act with their integrated sense of self. To be autonomous means to be willing to perform an act, whether an action is independent or in response to a request from significant other (Deci & Ryan**,** 2000). In this study, motivation of students is defined by the three innate psychological needs: autonomy, competence, and relatedness, as described here.

Mobile Apps and English Language Teaching & Learning
The growing access to mobile applications has brought language learning apps into focus (Annamalai, 2019; Annamalai & Kumar, 2020; Moroz, 2013). The literature related to mobile apps in education and language learning apps offers some guidance for the current study. A study by Aljaoud et al. (2019) used a clicker app for peer interaction with peers and responded to teachers' questions reported that smartphone clicker apps promoted student-teacher and student-student interaction

resulting in active collaboration among students and improved learning performance.

Tai and Ting (2020) examined how engineering students use the authoring tools of the mobile app to innovate an English-learning app that aims to provide feedback for revision. Analyzing students' self-reports, students' designed apps, and presentations, the study found that engineering students viewed their work from a different perspective and appreciated their English teachers' comments. In terms of vocabulary, smartphones assisted learners to learn new English vocabulary that facilitated ubiquitous learning, enabled corrective feedback, and helped in their preparation for examination (Klimova & Polakova, 2020; Nami, 2020). Annamalai and Kumar (2020) examined how distance education students used smartphones to complete their English course work. The study reported on how smartphones create opportunities for students to interact collaborate, create content, listen, read, view, and browse the web. Kacetl and Klímová (2019) conducted a systematic review on the application in English language learning in Web of Science and Scopus databases from 2015 to April 2019. The findings reported that smartphone applications have great potential to enhance English language learning as they promote personalized learning, autonomy, and confidence. The study also importantly emphasized the need to design, plan and implement the use of smartphones wisely based on learners' needs.

Loewen et al. (2019) highlighted the positive uses of Duolingo apps by emphasizing its flexibility and gamified lesson integrated into the apps. However, they also highlighted students' frustration with instructional materials in Duolingo. A study by Butgereit and Botha (2009) in Africa claimed that the Hadeda app was useful to learn vocabulary by encouraging the learner to practice spelling the words. Similarly, Sandberg et al. (2011) found that the *deHadeda* app allowed the language teacher to create spelling lists or vocabulary lists in English and Afrikaans. Hadeda then generated a fun cell phone application using multiple text-to-speech engines to encourage pupils to practice spelling the words. Steel (2012) investigated the use of apps with Japanese, French, and Spanish language learners for out-of-the-classroom learning in an Australian university. The study concluded that the apps allow them to learn on the go. The above review indicates that language learning apps, by and large, have been teacher-selected apps for language learning. There is limited research on students' experiences of using smartphone apps independently. According to Nami (2020), app-based language learning is still at the infancy level and there have been relatively few studies on the use of smartphones in language learning. Hence, more investigation of students' personal use of mobile apps for language learning is required.

METHOD

A mixed method was adopted as a mode of inquiry for this study so that the strength of quantitative and qualitative, in tandem, could be utilized (Sun & Buripakdi, 2021) to understand better the use of smartphone apps for English language learning by the undergraduate students in this study. In this study, the quantitative findings (descriptive statistics) indicate the use of smartphone apps for various English language skills while the qualitative findings provide descriptive accounts of participants' motivation related to autonomy, competence and relatedness, and challenges of using English language apps

Research Participant

The participants were from undergraduate students from a Malaysian University and were enrolled in the *General English Language* course in the 2019/2020 academic year. A total of 200 participants were selected using purposive and convenience samplings, allowing the researchers to select the participants based on accessibility and proximity (Creswell, 2008). Accessibility and proximity refer to the students who have registered for the university's English language course where the study was conducted. Out of the 200 participants, 20 participants volunteered to be interviewed to provide rich information and an in-depth understanding of the use of smartphone English language apps. We wanted to "further safeguard the rights of the participants" of the research and hence, the main criterion of sample selection for the interview (Ramli et al., 2021, p. 3740). At the beginning of the semester, students were given the flexibility to use various apps to enhance their English language skills related to vocabulary, grammar, listening, speaking, reading, and writing. They were encouraged (but not forced) to use the language apps in whichever way they liked or preferred in preparing for their assessment related to listening, speaking, reading, and writing skills outlined in their learning outcomes. After 12 weeks, students were asked to answer a questionnaire and invited to participate in interviews based on their experiences of using the apps in learning English.

Research Instrument

A questionnaire was administered to the students anonymously using a Google form. The researchers developed the two-part questionnaire, measuring participation demographics and English language learning skills. A yes/no questionnaire was used to identify the language skills learned via smartphone apps. The research question and relevant literature reviewed in this study guided the researchers in developing the items for the questionnaire (Siddiky, 2021), which focused on the six main tenets of learning language i.e. writing, listening, speaking,

reading, grammar and vocabulary. Section 1 collected demographic information, while there are six items in section 2:

i. I use apps related to writing skills to improve my English
ii. I use apps related to speaking skills to improve my English
iii. I use apps related to vocabulary to improve my skills
iv. I use apps related to listening to improve my English
v. I use apps related to grammar to improve my English
vi. I use apps related to reading to improve my English

SPSS was utilized to obtain frequencies and percentages. Statistical analysis was carried out using IBM SPSS Statistics Version 27.0.

The questionnaire and interview items were constructed based on studies conducted by Garcia Botero et al. (2019), Şad et al. (2020), and Zainuddin and Perera (2019). Face and content validity of the questionnaire and the interview items were conducted by three independent researchers who are experts in the area of English language teaching and learning. Based on their suggestions, two items in the questionnaire and one interview items were revised to reflect the objective and the research questions of the study, as well as the literature used.

Interview Settings
The selected respondents were contacted via telephone calls. The nature of the study was explained to them and appointments to meet the interviewer were arranged according to participants' convenience. The interview was conducted in the research assistant's office in January 2020. The interview lasted for 20-30 minutes and was conducted in the English language. The interviews were recorded and transcribed verbatim. However, a few of the participants used the bilingual medium of English and Malay language. An independent research assistant was employed to gather frank opinions and avoid biases. Table 1 illustrates the interview questions and the purpose of each question.

Table 1
The Interview Questions and Purpose of Each Question

1.What motivates you to use the English language apps. Please describe with examples.	The purpose of this question is to know how competence, autonomy and relatedness motivate students to use the English language apps?
2. What are the challenges or limitations that you experience when you use the apps for English language learning?	Does this question probe the challenges and limitations of the app?
3. Is there any other experience that you would like to share?	This question is helpful in identifying some of their experiences related to motivation and challenges?

Both inductive and deductive analysis were considered in this study to code the students' interviews (Armat et al., 2018). An inductive approach permits additional emerging themes from the interview transcripts. The inductive approach allowed emerging themes that did not fit the SDT framework. The six Steps Thematic Analysis by Braun and Clarke (2006) guides the categorization of emerging themes in this study. The steps are familiarization of the data, generating initial codes, searching for themes, reviewing themes, defining, and naming themes and producing the report. Three coders were trained to categorize the data.

Trustworthiness of Qualitative Data
The four criteria for qualitative research suggested by Guba and Lincoln (1994) were considered in this study: confirmability, credibility, dependability, and transferability were considered in analyzing the qualitative data. The notion of credibility was addressed by using member checking to establish accuracy in the findings (Creswell, 2009). The interview transcript was taken—back to the participants to determine whether the information provided during the interview is the same as the information in the data. Transferability was achieved with a description of the setting and participants. Investigator triangulation was achieved when three experienced lecturers in qualitative research coded the emerging themes. They reached 85% agreement among the coders. Hence, the findings are reliable, convincing, and accurately reflecting the real situation. The interview questions were also validated by a panel of experts in the field of technology and educational research.

FINDINGS
Smartphone Apps and English Language Learning
The first research question concerned the type of apps that the students engage in most to improve their English language learning outside the classroom. Findings show that the students use grammar-related apps (GRA) the most (f=145, 72.5%), followed by speaking related apps (SRA)

(f=93, 46.5%) and vocabulary related apps (VRA) (f=84, 42.0%). Writing-related apps (WRA) via smartphones are the least used (f=22, 11.0%) (see Table 2). Using the Chi-square test, it is found that there is no statistically significant difference between male and female students with regards to VRA (0.277), GRA (0.114), SRA (0.929), and

reading-related apps (RRA) (0.100). Only writing-related apps (WRA) was found to be statistically significant in the analysis (p<0.05), where a higher number of female students were using WRA, as compared to male students. Table 2 illustrates the types of apps used to improve English Language learning.

Table 2
Types of Apps Used to Improve English Language Learning

Types of Apps	Male f (%)	Female f (%)	Total f (%)	p-value (less than 0.05)	Examples
Grammar	61 (67)	84 (77.1)	145 (72.5)	0.114	Learn English Grammar, Hello English
Speaking	42 (46.2)	51 (46.8)	93 (46.5)	0.929	Speak English, TALK ENGLISH
Vocabulary	42 (46.2)	42 (38.5)	84 (42.0)	0.277	Dictionary.com, BBC English Apps
Listening	27 (29.7)	34 (31.2)	61 (30.5)	0.816	L.E.O EDUs
Reading	19 (20.9)	34 (31.2)	53 (26.5)	0.100	English Grammar Book
Writing	5 (5.5)	17 (16.6)	22 (11.0)	0.023*	Knudge.me, Speedy English Grammar Practice App

English language learning using Smartphone Apps and Motivation

In answering the second research question, data for this section will be presented according to the three main aspects of motivation, examined from the SDT perspective i.e., autonomy, competence and relatedness.

Autonomy

Learning a language demands time, commitment, and effort. Autonomous learning takes place when students are responsible for their learning. Students are more conscious of the process of meaning-making. With the help of language apps, students in this study are able to acquire knowledge and engage in language learning independently. PP1 describes how the Memrise app allows,

> *immersion in English in the comfort of our own home, and by listening to thousands of audio-files, we can work on how to improve our English pronunciation and intonation at our own pace and terms. At Memrise, their basic English course cuts the learning into short sessions that we complete every day, so we can always find time for some practise either at home or on the go. (PP1).*

The students are not able to access the apps if they are in "a place with a poor Internet connection" but with the "summary notes" (PP4) or "downloaded (notes) from the toolkit that can be viewed offline" (PP5), The students admit that there can be "no more excuses to not study English" (PP14). This supports the concept of ubiquitous

learning, where their learning is possible anywhere, anytime with the use of such language apps. Additional tools available in the apps support and reinforce learning, (PP4), who also explains that "the video with the explanation" helps him "to understand more about each lesson". In addition, the available tools in the apps, according to PP16, are "easily accessible tools for studying 'on the go'" as the students are constantly "unlocking the ability to incorporate self-study into our hectic lifestyle". With the language apps, the students are learning much more freely, with freedom willingness, and independence, where they do not "need to refer to anyone" and show their "abilities in a language" (PP26). He explained:

> *Personally, I feel so easy and comfortable to use apps and become my ruler to measure my ability to speak and listen to correct English. I wish there are more apps there to make us feel free to use and let us communicate in English (PP26).*

Competence

Students have the opportunity to extend their English language learning via "user friendly (PP5)" apps that provide them the opportunity to choose their apps according to "basic, intermediate and advanced levels" (PP5). The apps seem to promote opportunities for language stimulation. One student gave an example of how "The Shaw Academy apps instructor speaks slowly and very clearly so that one can listen to pronunciation in English words. In my opinion, if we listen to the correct English pronunciation, we can improve our oral skills and at

the same time, we can improve our listening ability" (PP3). The virtual interactions seem to be viewed positively and assist them in "conversation categories related to bank, selling a house, travel, etc. This enables the students to introduce themselves, ask for directions and communicate effectively. It also "comes with different levels from beginner to advance, which makes this app user-friendly to everyone. With practice, we will be able to understand English and begin to enjoy conversation in the English language". The students experience byte size learning via *Improve English* by Knudge Me where there are a lot of mini-courses on English content such as vocabulary builder, English idioms, phrasal verbs, commonly confused**,** and many more and eventually "memorize the wordlist easily" (PP14). Besides that, this app puts "interactive games in ten different kinds of users to challenge their English language skills in a fun way and provides a section known as *A Word A Day* to let the user learn new words every day (PP14). Students tend to choose "conversation sessions through videos that provide the right English grammar and proper English" (PP4) which is in line with the objectives outlined by the courses to excel in their vocabulary and grammar skills. One student concluded that "lecturers should consider these apps for those who do not have a good foundation of English by using the apps" (PP11). Apps allow them to practice English language skills without having the face-to-face practices.

Relatedness
The apps provided them with interactive learning opportunities where their "speaking and writing exercises are corrected by native speakers". This helps them "to perfect [their] accent" (PP20), exchange information with other users, and develop their critical thinking and problem-solving. Users expressed their satisfaction when their "speaking and writing exercises are corrected by native speakers. From this learning can help to perfect my accent with English recognition exercises" (PP20). In addition to this, app users can connect with other learners to share ideas, opinions, and co-construct knowledge when they "interact with friends and family members through its multiplayer games, quizzes and practice English with other learners across the globe. It has the advantage of allowing its users to do their training at home or anywhere wherever we are free" (PP16)

The content interaction helped the learners to explore in greater detail. The content interaction in a way guides students to study independently and take responsibility for their learning. They seem to regain a sense of accomplishment in their language learning. One of the participant's excerpts is as below.

PP12: With Duolingo, you can set your weekly goals and complete the different modules. The new modules will only be activated once you complete the previous one. New vocabulary is often taught with grammar and images, and grammar points are taught in speech bubbles. There are also listening exercises where you need to type what you hear and speaking exercises where you say what you hear.

Students claim that the interactions were so engaging that they enjoy the session. PP29 expressed that:

a series of question and answer sessions interest me in the use of English. The systematic manner and arrangement of sentences and interesting videos have made us unaware of the passing of time while viewing it.

Challenges
In answering the third research question, 5 main challenges were identified by the learners – limitations of apps, limited visual but costly, pop-up advertisements, health issues**,** and lack of human touch**.**

Limitations of Apps
Participants are aware that there are many apps available on English language learning (PP17, PP25, PP28), but it is the learners who are responsible to "find an application that is compatible" with them (PP17) by analyzing, comprehending, and choosing "wisely rather than dwelling on negativity and disadvantages of these applications" (PP28). PP17 believes that "there is no one perfect application" and hence, one has to "keep trying different applications" and identify the most suitable one. Once identified, the next consideration is how the students are going to "make the learning of English much smoother" (PP25) and eventually, improve their learning of the language (PP21) with the use and aid of the language apps.

Limited Visual but Costly
Although the development of technology tools has opened up unlimited possibilities for students to engage with learning sources, at times, problems and issues arise. Students were concerned about the "phone screens that accommodate a lot less content" (PP15). They were also dissatisfied when the apps demanded "a fee of 5-10L per month depending on the duration of the course depending on whether it is for 1,3,6, or 12" (PP4) and for "English certification, live tutors, resume writing services premium courses and live video chats with teachers. It is more disappointing when video chat in English is available "for a one-time fee that can range from $1 to $140 depending on the user's need" (PP13).

Pop Up Advertisements

The app is also swamped with too many advertisements. These "Pop up advertisements asking users to install other applications" (PP14). It is more frustrating when "the advertisement takes a long time to load the content and sometimes users must restart the application again" (PP7). It is a "distraction when users want to focus on the content" (PP2). The pop-up advertisement seems to be irritating for his "nasty accent." (PP3).

Health Issues

One student expressed his concern that the apps: "indirectly impacts our health, especially the eyes. it is caused by the blue rays of the cell phone. Blue rays have very short wavelengths, which results in higher amounts of energy. Studies show that excessive exposure to blue light over the long term can cause serious damage to the eyes" (PP7).

Lack of Human Touch

Students emphasized the importance of traditional classroom teaching and expressed that one should not neglect the conventional "conventional way of learning through frequent practice and exercises in the printed sources or medium such as books, puzzles, and more in our quest to improve our English language"(PP28). The face-to-face interaction in the traditional class is still appreciated, and they opine that " apps are a great alternative for English learning, but the need for direct learning instructions can be found in classroom is more effective in language learning" (PP28). However, students felt that "human touch is needed to enhance English language users' power through real-life communication and not by depending on the application solely." (PP26). Students preferred "a formal class to understand much to understand much better and upgrade our confidence level" (PP30). PP30 explained that "by browsing an application online once a day", it would not be a practice that improves their English language proficiency. Human interaction is important to help us learn from others and share our knowledge together" (PP30) and communication with a smartphone will "only help you to have words and practice pronunciation all in silence" (PP5).

DISCUSSION

The descriptive analysis reveals that undergraduate students use English language learning apps mostly to enhance their grammar. This is followed by speaking, reading, and vocabulary activities. The possibility for grammar apps to be popular among students is because acquiring grammar skills is the key to speaking and writing effectively (Cam & Tran, 2017; Zhou, 2018). The popularity of using grammar and listening apps can also be related to the learning outcomes of the General English paper.

The General English paper intends to enhance non-English major students of grammatical aspects, vocabulary, comprehension skills, and speaking skills. Listening and writing skills are attended peripherally in the General English paper.

Since students are keen to use apps to learn grammar independently, educators can further focus suggest effective apps related to grammar and further enhance their listening, speaking, reading, and writing skills during the online and traditional lectures. Previous research (Klimova, 2018; Morgana, 2015; Şad et al., 2020) also suggests that language apps can be exploited to improve listening, speaking, and reading skills. The findings of this study are contradicting with the findings of Nami (2020), who reported that Iranian students prefer grammar aspects to be taught in a traditional classroom and their less positive attitudes towards grammatical apps. Iranian students are said to be more comfortable with the teacher approach-teaching. This study demonstrates that students are able to work independently, and for this reason, English language apps can be part of the English lessons and integrated into the learning objectives as students have the "flexibility and choice over their own learning" and could manage and direct their learning (Demouy et al., 2016, p. 11).

The findings also reinforced the idea that smartphone apps can be used to enhance vocabulary learning (Hassan Taj et al., 2017; Yaman et al., 2015). The writing app was not favoured by the students, and this is probably due to the size of the smartphone, which is confirmed in the qualitative data. The findings have important implications for educators. Writing skills should not only be emphasized in the class and, writing activities via apps should not only be minimized, but more crucially, teachers should be implementing "a unified instructional approach" combining language apps and perhaps other conventional teaching techniques that is "solidly grounded in L2 writing theory to guide instruction" (Menke & Anderson, 2019, p. 408).

The second research question makes contributions to both theories as well as practice. The findings can explain learners' English language app use behaviour. Our study has extended the scope of existing research on SDT. It is evidenced that the English language apps have supported the three physiological needs mainly autonomy, relatedness, and competence as illustrated by SDT. Whilst it is debatable whether English language apps can be considered as an independent solution to English language learning, these apps can support learner autonomy and users' interest in acquiring a language. The interviews have demonstrated that students have cultivated independent learning and ubiquitous learning (autonomy). The popularity of students engaged in vocabulary, grammar, listening, speaking, reading, and writing skills apps can be

related to these elements. Students' exposure to independent learning and ubiquitous learning should further be manipulated by instructors with innovative pedagogical practices. According to Keengwe and Hussein (2014), effective pedagogical practices will improve students' autonomous learning and motivation. In terms of relatedness, the findings show that interactive activities gave learners the opportunity for learners to practice and improve their communication skills, which resulted in a positive impact on their motivation to improve their English language learning. Deci and Ryan (2002) reported that learners are intrinsically motivated when they interact with others. In terms of competence, students felt more competent with the activities offered by the apps that motivated them to embrace self-directed learning. They tend to be more competent and take ownership of their learning and learn during class and in between classes. The activities help them to understand and prepare for their English language skills. The positive findings added to those by Sharples et al. (2007) that there are some aspects of mobile phones that are worth considering in higher education learning environments. The language apps have allowed students to personalize their learning, experience, flexibility, and convenience 21st-century learning skills.

According to Şad et al., (2020), smartphone use emphasized the advantages of using smartphones in education and neglected the adverse effects. Therefore, this study not only offers information related to motivation but also provides information to app providers and marketers. The challenges reported in this study are related to cost, restricted space, pop-up advertisements, lack of human touch and health issues. These challenges and limitations found by the users should be a guide for marketing strategies. If smartphones need to be used in language learning, app designers need to work hand in hand with the curriculum developers for students to embrace language learning apps. Educators should also consider language apps as part of learning and completing assignments. Integration of effective instructions and pedagogical practices will reduce the challenges faced by students. Educators and institutions must address technology barriers, such as access to devices and Wi-Fi connectivity. Also, educators can advise students on the effective use of language app which is freely available. Shadiev et al. (2020) have recommended that educators can give a collection of language learning apps that is suitable for their courses for them to benefit in language learning. Participants were also concerned about the size of smartphones for learning activities. Such dissatisfaction has been voiced out by Şad et al. (2020) that the size of smartphones has hindered the learners from using smartphones for education. Iqbal and Bhatti (2020) have suggested that web

content developers should ensure that the content is appropriate with the size of the smartphone screen.

CONCLUSION

The findings of the study were not only limited to the psychological needs of motivation but also the challenges related to the use of smartphone apps. Although the study has suggested that competence, autonomy, and relatedness are evident in the use of English language apps, students might not experience such benefits if learning activities are not carefully planned. Therefore, based on the findings of the research, we were able to derive a model that is an amalgamation of pedagogical approaches (see Figure 1) that would be able to address the above issue. Teachers and educators may want to consider this model when integrating smartphones into teaching and learning the English language. The emphasis is on the four approaches of learning i.e. interactive learning, ubiquitous learning, bite-sized learning, and independent learning, where teachers and educators need to be well-versed with the four learning approaches as using them would maximize learners' effective and meaningful learning experiences using smartphones. The critical elements of these four approaches would inform and guide teachers in utilizing the features of the smartphone and relevant apps maximally and effectively in the planning and implementation of language learning activities, tasks, and assessment**s**. Simultaneously, the teachers and educators need to consider the limitations and drawbacks mentioned by the respondents in this study. Finding a balance between the four approaches and the limitations is crucial so that more impactful learning could be attained.

Figure 1
Pedagogical Considerations of Using Smartphones for English Language Learning in Distance Education
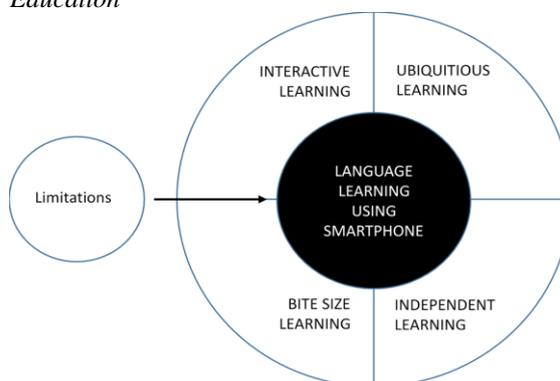
The above-suggested model may assist teachers in effective utilization of smartphones for a proactive and meaningful language learning as well as planning and implementing effectual language learning experience in the context of education that

is copiously supported and guided by independent, personalized and interactive learning. Future research pertaining to the use of smartphones for language learning should and could be developed using this model and examined its relevancy, appropriateness and effectiveness using both quantitative and qualitative studies. Findings from such studies would help strengthen this model or further improve the model and thus, provide practitioners and researchers with concrete options in implementing and evaluating students' learning of the English language (or other languages) using smartphones.

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