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Smartphones as Potential Tools to Enhance Yemeni EFL College Students' Listening Skills in a Zero-Resource Environment

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Abstract: This mixed-method study investigated EFL college students' experience with smartphone learning and their potential advantages and challenges when used to enhance EFL college students' listening skills in a zero-resource setting. The study used questionnaires, focus group discussions (FGDs), and interviews to collect data from the subjects before and after being involved in a smartphone learning experience. The sample included EFL third-level students at the College of Education, Zingibar, Abyan University, Yemen, in 2023/2024. The results revealed that using smartphones has potential advantages in developing EFL college students' listening skills. They encourage students' meaningful engagement and interaction with peers and teachers and facilitate authentic language use inside and outside the classroom. The results also showed that some potential challenges could impede smartphone learning, which pertain to smartphones themselves, EFL teachers, and learners. The most prevalent challenges are the lack of smartphones among EFL learners, the negative attitudes of EFL teachers toward smartphone learning, and EFL teachers' lack of experience in integrating smartphones in EFL classrooms. In addition, the study proposed solutions to the problems raised during the application of smartphone learning and provided suggestions and recommendations for further research.

Keywords: Smartphone learning, listening skills, advantages, challenges, zero resource

INTRODUCTION

It is obvious that the term "mobile learning" "is not agreed upon, partly because the field is experiencing rapid evolution, and partly because of the ambiguity of ‘‘mobile’’ – does it relate to mobile technologies, or the more general notion of learner mobility?" (Kukulska-Hulme, 2009, p. 158). Kukulska-Hulme et al. (2007) defined mobile learning as "learning with portable devices such as mobile phones, PDAs, ultra-mobile PCs, and personal media players" (p. 52). Wang et al. (2009) defined it with connection to technology and internet, i.e., “the delivery of learning to students anytime and anywhere through the use of wireless internet and mobile devices” (p.92). From the definitions above, we find a relationship between mobile learning and e-learning (Cavus & Ibrahim, 2008). It is instructive to consider that there are similarities between the fields of e-learning and mobile learning (m-learning) as they share the same roots in distance education (Gladieux & Swail, 1999). Explaining the relationship between e-learning and m-learning, Milrad (2003, as cited in Cavus & Ibrahim, 2008) defined e-learning as “learning supported by digital electronic tools and media” and mobile learning as “e-learning using mobile devices and wireless transmission” (p.38). Mobile learning in this study is not e-learning as it goes beyond the conditions of e-learning, i.e., “stable electricity supply and reliable and moderately priced internet access are a necessary condition for e-learning" (Bates, 2001, p.113). Mobile learning, therefore, can be defined as learning using a mobile device that supports wireless transmission of learning and/ or learning materials with or without an internet connection and can involve learning anytime, anywhere, and anyhow. This definition of mobile learning considers what previous researchers have ignored in their definitions. First, it considers the aspect of "anyhow" of learning, which involves mobility of both the learner and the device and sets desktop computers and big laptops aside as one cannot use them while, for example, walking, lying back on the bed, or exercising. Second, the definition considers old-generation cell phones that do not support internet use and/ or wireless transmission of the learning materials and have limited use in certain fields of learning that only involve SMS and call services.

The adoption of mobile learning in any educational setting depends on some factors like availability of infrastructure, level of awareness, expertise in the field of mobile learning, and the willingness of students to implement and use mobile learning (Osang, et al., 2013). In the modern world, we find that it is easy to integrate mobile learning for the factors mentioned earlier, while in developing countries it is hard to adopt it the way is in developed nations because of a lack of facilities like electricity and internet accessibility. However, this study in the Yemeni context brings evidence that mobile learning using smartphones can be applied in the EFL classroom in a zero-resource setting where facilities like electricity, and internet connectivity are not available for use in the classroom,

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and it can work as a method to compensate such lack of facilities.

The study is significant in that it gives EFL learners practical insights into the potential benefits of smartphones for learning English language without using the internet. For teachers, the study forms solid proof of the potential advantages of smartphones as an instructional tool to enhance students' listening skills in particular and language learning in general in a zero-resource environment where teachers cannot integrate any type of technology in the classroom due to lack of resources needed like electricity and or internet. For research, the study advances the literature available about new trends of smartphone learning as the best alternative in a zero-resource environment and informs the path for future research in English language teaching and learning in the Yemeni context in particular and related contexts, in general.

This study though is a novel in the Yemeni context that addressed a new, sensitive, and unique topic at the college level, which is smartphone learning benefits and problems experienced by EFL students, it still has limitations: it did not address the issue of smartphone efficiency in learning listening. Also, the study involved third-level students in a single college of education, Abyan University, which makes the results less generalizable. In addition, the study did not consider teachers' views about mobile learning as part of the educational process to integrate smartphones into language learning, which needs more in-depth investigation.

METHODS

A mixed-method approach to research was followed in this study. Qualitative and quantitative data collection methods were adopted to obtain more detailed information about the problem investigated as "the combination of both forms of data provides a better understanding of a research problem than either quantitative or qualitative data by itself." (Creswell, 2012, p. 22)

Population and sample of the study

The population of the study was EFL students of the College of Education, Zingibar, Abyan University in the year 2023/2024. Based on the pre-application questionnaire conducted, 42 (19% males and 81% females) out of 45 third-level students were included as sample participants in the post-application questionnaire. Three students were not involved, because they had no smartphones or had basic mobile phones as they stated in the pre-application questionnaire. Yet, they were involved in the process of in-class mobile learning, in the post-application focus group discussions (FGDs), and the interviews.

Instruments

The study followed a mixed method approach in which pre- and post-application questionnaires, focus group discussions (FGDs), and interviews were used to answer the questions of the study.

Procedures

A structured pre-application questionnaire was conducted to check phones availability with students and their potential to be used for learning purposes, to explore students' previous experience with smartphones for language learning and to know students' attitudes towards cell phones as learning tools. Based on the results of the pre-application questionnaire, the researcher decided to give the students a first-hand experience in smartphone learning as he thought it would not be reasonable to ask students about what they have never experienced. The application of smartphone learning allowed the researcher to observe closely what worked well in terms of benefits and what did not work well in terms of difficulties. It also helped to build the post-application questionnaire items stated as advantages and challenges of smartphone use in improving EFL college students' listening skills.

The listening activity started by sending the audio ("Diseases spread by mosquitos" downloaded from "VOA Special English"). to the leaders of the groups (students were grouped five into nine groups) who resent it to their group's members via "SHAREit" application after asking the students to put their phones on "airplane mode" so as not to be distracted. This took about 10 minutes for the class to get ready for the listening activity. As groups, students were asked to play the audio twice, take notes, and discuss the listening material to respond to some comprehension questions (questions 1-5, see Appendix I) to check their understanding of the materials presented via smartphones. Two students at least from each group were required to answer a question or two orally while the rest of the group members were asked to support their classmates' answers. Then, students were asked to work in pairs (students who had no cellphones were paired with others who had ones by sharing the same headphones) to answer some comprehension questions (questions 6-9, see appendix I). The class spent almost 50 minutes listening to the audio and responding to the questions. After that, students were asked to get the listening material home and try to finish the rest of the questions (10-19, see Appendix I). Students were also informed to contact the teacher (researcher) and each other by calling or using SMS to interact about the listening material presented for further practice. The researcher received 10 calls. Eight calls were from female students and two calls only were from male students asking for clarifications about the listening material. The researcher also contacted the group leaders via SMS to remind them of the homework and ask them to contact others for confirmation. It is worth noting that the researcher is not interested in testing the efficiency of the learning that occurs when using smartphones to teach listening skills. Rather, to explore how smartphones

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could be of help in teaching this skill to EFL students in a zero-resource environment. Two weeks later, a structured questionnaire of 26 items (See tables 3, 4, 5) was administered to know how students perceived the smartphone learning experiences in terms of advantages and challenges. Before administration, the questionnaire was tested for validity by experts from the field of English education and applied linguistics, and for reliability using SPSS 20. The Cronbach's Alpha was 0.74, which is within an acceptable level in social science studies. Further, the tool was piloted on 10 students (5 male and 5 female students of 2nd level). It is worth noting that the questionnaire was written in English. The researcher himself turned in the questionnaires to students and guided them on how to respond to the items. He also read the statements along with Arabic translations for more clarification. Students were allowed to ask if some points were obscure or some words were difficult. It took students about 25 minutes to finish the questionnaire. The students, then, submitted the questionnaires to the researcher for coding and further analysis. A month later, after analysis of the questionnaire, and to suggest some solutions to the most problematic issues raised during the application of smartphone learning, students were engaged in focus group discussions (FGDs) for 15 minutes to answer question four of the study (see section 4.4 Proposed solutions for the challenges raised during the application). The focus group discussions (FGDs) involved 42 students divided into seven groups with six students each. Each group was assigned a facilitator to lead the discussion and jet down the most important notes with the researcher monitoring in-group interactions. Finished, the groups' leaders collected the suggestions they noted from the discussion and brought them to the researcher who, in turn, finalized them thematically. The final step of conducting the study involved only the three students who had no smartphones. The students were interviewed to ensure that the solutions proposed by the class in the FGDs would help them be engaged in learning inside and outside the classroom. The interview comprised four questions based on the suggestions presented by the class (see Appendix II).

DATA ANALYSIS

For quantitative data, the researcher used Excel to calculate the frequencies of students' responses to the items of the pre-application questionnaire and used SPSS 20 to calculate the frequencies, mean, standard deviations, and agreement and disagreement percentages of students' responses to the items of the post-application questionnaire. For qualitative data from focus group discussions (FGDs) and interviews, the researcher used thematic analysis focusing on the most significant frequent themes raised by students in the interviews/ discussions.

RESULTS AND DISCUSSION

EFL students' possession and use of smartphones to learn English

Table 1 summarizes the data analyzed from students' responses to the items of the pre-application questionnaire meant to check the availability of smartphones with students and their experiences using them for learning purposes.

Table 1: Students' responses to the items of the pre-application questionnaire

Items	The scale	N	Percentage
Do you have a smartphone?	Yes	42	93.3%
	No	3	6.7%
Do you use it for sending and receiving files, documents, audios, videos and other media stuff?	Yes	42	100 %
	No	0	0%
How often do you use your cellphone to learn English?	Very often	5	13%
	Sometimes	10	23%
	Never	27	64%
Have you ever been taught using a cellphone at any stage of your formal education?	Yes	0	0%
	No	42	100%
Would you like to use mobile phone to learn English?	Yes	20	47.6%
	Not sure	15	35.7%
	No	7	16.7%

The table shows that almost all students (93.3%) have smartphones (Alaamri, 2011) able to receive and send learning materials, which means that "Mobile devices have indeed become commonplace tools serving a wide array of purposes" (Demouy & Kukulska-Hulme, 2010, p. 152), and that few students (6.7%) reported having no smartphones. Those students who have no smartphones, though few, can face a real challenge in using smartphones to enhance EFL college students' listening skills in particular and for English language learning in general. The researcher as explained earlier engaged them in the learning process in the classroom by pairing them to their classmates as part of the solution. However, involving them in homework and providing them with further practice outside the classroom remained a challenge for the researcher to manage during the application of smartphone learning. Therefore, to overcome this challenge, the researcher conducted focus group discussions (FGDs) with students to reach some

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sound solutions (see section 4.4. Proposed solutions for the challenges raised during the application).

The table also indicates a very low use of smartphones for learning English, which supports Zhu *et al.* (2012) and Alhassan (2016), who revealed students were found to have very little experience in online and mobile learning, and it opposes Ababneh (2017) who found high use of mobile phones by Jordanian EFL learners to learn English. "The reason there is a lack of use of mobile learning among [Yemeni EFL students] is likely due to their lack of [awareness and] experience of technology-driven learning [...] and individual inability in using new technology" (Oyelere *et al.*, 2017, p. 18). In addition, the table indicates that though students have no prior e-learning knowledge, - as reflected in their response to item four of the questionnaire where 47% of them showed positive attitudes and willingness towards the use of smartphones for learning in the future. This supports the studies of Abas *et al.* (2009), Zhu *et al.* (2012), and Alhassan (2016).

Students' lack of awareness and experience led to a lack of use of mobile phones for learning purposes and students' attitudes were considered by giving a first-hand experience in mobile learning in which students practiced learning English using their smartphones and reflected on their potential advantages and challenges. The mobile learning experience was proved to increase EFL students' motivation and awareness and boost their experience and behavioral intention towards the use of smartphones for learning English as depicted in students' responses to item no.17 of the post-application questionnaire compared to their responses to item five (5) of the pre-application questionnaire. Less than half (47%) of students showed positive attitudes towards the use of smartphone learning before the application compared to 83.3% after the application.

Potential advantages of integrating smartphone to enhance EFL students' listening skills

To present the data analyzed from students' responses, the researcher set a scale to judge their responses to the items of the post-application questionnaire as shown in Table 2

Table 2: Judgment scale for students' responses to the items of the post-application questionnaire

Level	Percentage range	Rank
1	84% – 100%	Very High
2	68% - 83.9%	High
3	52% - 67.9%	Medium
4	36%- 51.9%	Low
5	20%- 35.9%	Very low

Table 2 shows the criteria adopted to consider an item a perceived advantage or a challenge of using smartphones to enhance EFL students' listening ability. Items that fall within medium percentage level (52-67.9%) onward were only considered in the study. Other items that received an agreement below that level were not taken into consideration.

The first domain's items (1-17) of the post-application questionnaire explored the perceived potential advantages of smartphones in learning listening skills to answer the second question of the study. Frequencies, percentages, means, and standard deviations of means for each item of the first domain of the post-application questionnaire were calculated. Then, frequencies and percentages of agreement and disagreement of each item were calculated. After that, the overall agreement percentage average of the first domain of the post-application questionnaire was obtained to find out its total weight (See Table 3)

Table 3: Students' responses to the items of the first domain of the questionnaire: advantages of using smartphones to learn listening skills

No	Items 1-17	Disagreement	Neutrality	Agreement
1	I find it very helpful and practical to learn listening with smartphone	9.5	14.3	76.2
2	With smartphone, I find it clear to listen to the audio presented	11.9	9.5	78.6
3	With smartphone, I feel I am engaged in the learning process	7.1	7.1	85.7
4	With smartphone, I can carry a lot of listening materials	9.5	11.9	78.6
5	With smartphone I can listen to the audios as many times as I want anytime, anywhere	2.4	11.9	85.7
6	With smartphone, I can discuss and interact with my classmates outside the classroom	0.0	7.1	92.9
7	With smartphone I can be involved in group and pair work inside and outside the classroom	16.7	19.0	64.3

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8	With smartphone, I can be involved in peer learning inside and outside the classroom	11.9	9.5	78.6
9	Using smartphone gives me a big chance to work individually inside and outside the classroom	9.5	21.4	69
10	With smartphone, I am more exposed to natural language of native speakers inside and outside the classroom	0.0	14.3	85.7
11	With smartphone learning, I can interact with my teachers outside the classroom	0.0	2.4	97.6
12	Smartphone learning can save my time	9.5	11.9	78.6
13	Using smartphone in learning listening helps me become a self-learner	7.1	19	73.8
14	Using smartphone in learning listening prepares me to study online courses in the future	4.8	7.1	88.1
15	Smartphone can save college and university resources as it can works as an alternative to computer lab, projector and it needs no equipped classes to be used	7.1	21.4	71.4
16	With smartphone, I do not worry about learning disturbance due to electricity cut	16.7	21.4	61.9
17	After my experience with smartphone learning, I am more interested now to use mobile phone to learn English	0.0	16.7	83.3
	Total average	**7.27**	**13.53**	**79.2%**

Table 3 shows that students strongly perceive interaction with their teachers and discussions with their classmates outside the classroom as the most important advantage of integrating smartphones in the EFL classroom. The result confirms Jalilifar *et al.* (2013) and Alhassan (2016) studies that found mobile phones enhanced students' interaction with peers and teachers. Students also strongly perceive that using smartphones in learning listening can expose them to the natural language of native speakers inside and outside the classroom, make the listening materials available for them to use anytime and anywhere, make them engaged in the learning process, and can prepare them to deal with online courses in the future. The result of the study partly supports the studies of Hariry (2015), Begum (2011), Osang *et al.* (2013), Adedoja *et al.* (2013), Oyelere *et al.* (2017), Elfeky and Masadeh (2016), Jalilifar *et al.* (2013), Alhassan (2016), and Demouy and Kukulska-Hulme (2010).

The table also indicates that there are important perceived advantages of using smartphones in learning listening to which students highly agreed. These advantages are: many study materials can be carried with smartphones; they help students to become self-learners and can involve students in peer learning inside and outside the classroom. The result comes in line with the studies of Ababneh (2017), Alasmari (2017), and Zhu *et al.* (2012). In addition, students believe that smartphone learning can save them time, which corresponds to the findings of Adedoja *et al.* (2013), and Alasmari (2017), can make the learning process practical, and it is typical for learning listening in a zero-resource environment.

Further, students perceive that smartphone learning can enhance their participation and involvement in the EFL classroom, working in pairs or groups, and it can encourage individual work inside and outside the classroom as well. The result supports Oyelere *et al.* (2017) findings that mobile phone learning can offer students individualized learning experiences, and encourage collaboration, interactivity, and participation in groups' work.

More importantly, smartphone integration in teaching listening skills was perceived to save college resources as it can compensate for computer labs and projectors, and it can "promote a virtual classroom without the panic of electricity supply" (Begum (2011, p. 110). This brings evidence that the use of smartphones in such a way can be a solution to some problems like network failures and lack of electricity reported by Adedoja *et al.* (2013) and Osang *et al.* (2013) as major constraints for the integration of mobile learning. The total weight of this domain, as the table presents, is 79.2%, which is high according to the judgment scale of students' responses (see Table 2). Overall, the result indicates that students perceived all the items stated in this part of the questionnaire as potential advantages of using smartphones for learning listening with varying degrees of importance as explained earlier.

Potential challenges of smartphone use to enhance EFL listening skills

The items of the second domain of the questionnaire were meant to explore the perceived challenges that might impede the use of smartphones in teaching

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listening skills to EFL college students. The researcher calculated frequencies, percentages, means, and standard deviations of means for each item of the second domain of the post-application questionnaire. Then, the percentages of agreement and disagreement of each item were calculated. Finally, the overall agreement percentage average of the domain was obtained to determine its total weight. Tables 4 and 5 show the data analyzed from students' responses on the potential challenges related to mobile phones and teachers as sources of a challenge that could impede using smartphones to enhance EFL students' listening skills.

Table 4: Students' responses to items of the second domain of the questionnaire: mobile phone as a source of a challenge

No	Items 18-22	Disagreement	Neutrality	Agreement
18	I cannot slow down the voice of the audio on my smartphone	11.9%	33.3%	54.8%
19	It is hard to catch up when listening from smartphone	9.5%	33.3%	57.1%
20	Sending and receiving audios by smartphone in the classroom takes time	2.4%	14.3%	83.3%
21	I find that smartphone screen is too small to watch if listening involves a video	2.4%	14.3%	83.3%
22	I do not have enough memory on my smartphone to save all the study materials for a long time	2.4%	23.8%	73.8%
Total average		5.72	23.8	70.5%

Table 4 shows that students see that receiving the audio in the classroom from teachers can waste too much time in the lecture, which is true as observed and experienced by the researcher during the application. Yet, this problem could be tackled if teachers made the listening materials available at the college library at the beginning of the semester or ahead of the lecture, so that students can collect them before the next class to come. The screen size was also perceived as a challenge when using smartphones for EFL language learning (Kukulska-Hulme & Pettit, 2009; Begum, 2011; Hariry, 2015; Chartrand, 2016). Consistent with the studies of Begum (2011) and Hariry (2015), limited phone memory was perceived to be problematic and challenging for using smartphones in the EFL classroom, which is true, especially if listening involves videos that occupy too much space. This suggests that audio should be adopted, which is still appropriate in that - even though gestures, body language, and lip movements help listeners- we still have the listening material effective and helpful in such a context.

The rest of the items in this domain, "I cannot slow down the voice of the audio or video on my smartphone ", and "It is hard to catch up when listening from my smartphone," received medium agreement as phone-related problems that might impede the use of smartphone in improving the EFL students' listening skills. This means that students do not believe such issues are real challenges for smartphone use in learning English as they can play the audio or the video as many times as they can anywhere and anytime as reflected in their response to item no. 6 of the post-application questionnaire.

Table 5: Students' responses to items of the second domain of the questionnaire: teachers as a source of challenge

No	Items 23-26	Disagreement	Neutrality	Agreement
23	Teachers are not experienced enough to incorporate smartphones in teaching English	0.0%	31%	69%
24	Teachers do not encourage us to use our smartphones for learning English	0.0%	38.1%	61.9%
25	Teachers do not like to change in their teaching methods	0.0%	38.1%	61.9%
26	Teachers do not want to bear more burden by preparing for smartphone learning activities in the classroom	0.0%	26.2%	73.8%
Total average		0.0	33.4	66.6%

Table 5 shows that teachers' lack of experience in managing smartphone learning activities in the classroom is perceived to be challenging in integrating smartphones to enhance EFL students' listening skills, which echoes the studies of Begum (2011) and Hariry (2015). The table also indicates that teachers' unwillingness and lack of motivation to adopt smartphones, and that mobile phone learning poses an extra load for teachers are challenges for using mobile learning in the EFL classroom. The result is supported by Osang *et al.* (2013) and confirmed by the researcher's observation and interaction with many EFL teachers when this topic proposal was presented in the forum held on 22 February 2019, at Aden University. Many professors and instructors of English criticized it for being uncontrollable and distracting and could devaluate the educational process.

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Proposed solutions for the challenges raised during the application

The researcher conducted focus group discussions (FGDs) and interviews with the students after analysis of the post-application questionnaire. The focus group discussions (FGDs) focused on bringing proposed solutions to the challenges that were serious and remained unsolved during the application like lack of cellphones with students. Note that some challenges either faced in the pilot study or during the application were either solved or remained out of reach and were suggested a solution in the suggestions section of the study. Students were asked the following question:

1. How do you think we can help students who have no smartphones to be part in the listening activity using cellphones inside and outside the classroom?

Analysis of the Focus Group Discussions (FGDs) resulted in the following themes (suggestions):

a. Students have to purchase smartphones
b. They can share their classmates' smartphones in the classroom
c. They can share the material outside the classroom with their neighboring students
d. They can borrow their classmates' extra smartphones and allocate some time to use them in the college at their free time.

After analysis of the focus group discussions (FGDs), the researcher assigned 10 minutes for each of the three students to be interviewed for clarification and more understanding of how these suggestions would solve their problems. The students, based on their classmates' suggestions, were presented four questions (see appendix II)

In response to the interview questions, the three students raised valuable concerns worth considering. In response to the first question, "Do you afford to purchase a smartphone?" All three students expressed they were not able to purchase a smartphone. One female student said, "You know. We depend on our families to pay for our college, and it is hard to get a smartphone for now.". The result translates that the students come from very low economic status families and that traditions of some families in our community deny girls the right to have a phone as they see it as a means of bad relations. For the second question, "Do you think it is enough to listen to the materials inside the classroom sharing one of your classmates' phones?" students stated that it would not be enough for them to listen to the materials in the classroom with their classmates. One student said, "It is good I share my friends' phones in the classroom, but it is not enough". Responding to the third question, "Does any of your classmates live close to you where you can meet and share the listening material?" two female students said they have some classmates who live close to them and can get the materials shared at their houses for some time. A female student said, "My neighbor is (name of student) and I can share the listening materials with her." Whereas the male student said he lives in a village where it is difficult for him to get the materials outside the classroom for further practice because he expressed, "I do not have a neighbor… I share the listening with from time to time." For the fourth question, "Do you think you can allocate time when you come to the college to listen to the materials presented and do the homework in the college before leaving home or any day before the due date of the homework?" Two female students expressed they can't do any work in the college after the scheduled classes. A female student said, "I cannot come early or stay late for additional work…you know family and culture issues". This is true in the sense that it is usual in our society that female students' families, on the one hand, do not allow them to come early to college or stay late after classes are finished, and on the other hand, most female students come to college by buses and are scheduled on a certain time to leave. The male student, though, showed a desire to come early or stay late in the college from time to time to do his work. He expressed, "it is enough for me to spend some time when I come to college listening to the materials presented to share one of my classmates' mobile phone or even borrowing one if possible."

The result suggests that students are eager to learn and are serious to be engaged in listening activities using smartphones as explained earlier. However, their economic status, family views and society traditions, especially about girls, form real barriers, which deactivates most of the solutions proposed in the study. That is, some of the suggested solutions can work with such students depending on being a male or a female and on the type of the views one's family holds towards education, especially girls' who are considered the most vulnerable members in the Yemeni society.

CONCLUSION

The study aimed at advancing the literature in terms of using innovative methods of teaching and learning the English language in a zero-resource environment where it is almost impossible to incorporate technology in the classroom due to a lack of resources like electricity and the internet. There is evidence that most of our EFL college students have smartphones, however, few have experience using them to learn English. This necessitates smartphone integration in our EFL classrooms for exposure to authentic language, meaningful interaction, and involvement inside and outside the classroom. The use of smartphones can change the way English language teaching and learning has been practiced in our colleges and contribute to raising the awareness of both learners and teachers about mobile learning in the EFL classroom. It can also create a safe environment for students and allow silenced learners to interact with their peers, and most importantly their teachers inside and outside the classroom, which forms a solid ground to bridge the gap between students and teachers in a closed-kit society like Yemen. This real educational change in teaching and learning practices

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depends mainly on the level of motivation and readiness of both EFL learners and teachers for mobile learning in general and smartphone learning in particular.

Although integrating smartphones in English language classrooms has significant advantages, it also has challenges that might impede its use and/or limit its effectiveness given the educational settings it is used in. Therefore, integrating smartphones to teach EFL college students in a developing country will encounter many challenges. The most critical is that some students of low-income families, cannot afford smartphones. Those students, if more, will pose a real threat that could undermine any attempt to incorporate smartphones into English language teaching and learning. Another real threat that can restrict smartphone use in the EFL classroom is teachers' negative attitudes towards smartphone learning and teachers' lack of experience using it for learning purposes. It makes it even worse if policymakers do not consider mobile/ smartphone learning an integral part of modern EFL teaching methods, i.e., integrating smartphones in the EFL classroom will remain a personal attempt restricted to innovative classroom teachers thrust for change unless otherwise adopted by the university.

Suggestions and recommendations for further research

Based on the results, the research suggests the following to be considered: Smartphone learning should be adopted in EFL college classrooms. Smartphone efficiency should be examined in English language learning. A training program for EFL teachers on integrating smartphones in the classroom should be considered. A similar study with a wide population and a large sample of EFL learners and teachers in many different colleges should be targeted.

REFERENCES

1. Ababneh, S. (2017). Using mobile phones in learning English: The case of Jordan. *Journal of Education and Human Development, 6*(4), 20–28. https://doi.org/10.15640/jehd.v6n4a14
2. Abas, Z. W., Peng, C. L., & Mansor, N. (2009). A study on learner readiness for mobile learning at Open University Malaysia. *IADIS International Conference Mobile Learning*, 151–157.
3. Adedoja, G., Adelore, O., Egbokhare, F., & Oluleye, A. (2013). Learners' acceptance of the use of mobile phones to deliver tutorials in a distance learning context: A case study at the University of Ibadan. *The African Journal of Information Systems, 5*(3), 80–93.
4. Alaamri, K. S. (2011). The use of mobile phones in learning English language by Sultan Qaboos University students: Practices, attitudes and challenges. *Canadian Journal on Scientific & Industrial Research, 2*(3), 143–152.
5. Alasmari, T. M. (2017). *Mobile learning technology acceptance among Saudi higher education students* (Unpublished Ph.D. dissertation). Wane State University.
6. Alhassan, R. (2016). Mobile learning as a method of ubiquitous learning: Students' attitudes, readiness, and possible barriers to implementation in higher education. *Journal of Education and Learning, 5*(1), 176–189. https://doi.org/10.5539/jel.v5n1p176
7. Bates, T. (2001). *National strategies for e-learning in postsecondary education and training.* UNESCO Institute for Educational Planning.
8. Begum, R. (2011). Prospect for cell phones as instructional tools in the EFL classroom: A case study of Jahangirnagar University, Bangladesh. *English Language Teaching, 4*(1), 105–115.
9. Cavus, N., & Ibrahim, D. (2008). MOLT: A mobile learning tool that makes learning new technical English language words enjoyable. *International Journal of Interactive Mobile Technologies (iJIM), 2*(4), 38–82.
10. Chartrand, R. (2016). Advantages and disadvantages of using mobile devices in a university language classroom. Retrieved from *http://repository.kurume-u.ac.jp/dspace/bitstream/11316/445/1/gaiken23_1-13.pdf*
11. Creswell, J. W. (2012). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research* (4th ed.). Pearson Education.
12. Demouy, V., & Kukulska-Hulme, A. (2010). On the spot: Using mobile devices for listening and speaking practice on a French language programme. *Open Learning: The Journal of Open, Distance and e-Learning, 25*(3), 217–232. https://doi.org/10.1080/02680513.2010.511955
13. Elfeky, A. I., & Masadeh, T. S. (2016). The effect of mobile learning on students' achievement and conversational skills. *International Journal of Higher Education, 5*(3), 20–31. https://doi.org/10.5430/ijhe.v5n3p20
14. Gladieux, L. E., & Swail, W. S. (1999, April). *The virtual university and educational opportunity: Issues of equity and access for the next generation.* College Board Publications. *https://eric.ed.gov/?id=ED428637*
15. Hariry, N. A. (2015). Mobile phones as useful language learning tools. *European Scientific Journal, 11*(16), 1857–7431.
16. Jalilifar, A., Hayati, A., & Mashhadi, A. (2013). Using short messages service (SMS) to teach idioms to EFL students. *British Journal of Educational Technology, 44*(1), 66–81. https://doi.org/10.1111/j.1467-8535.2011.01260.x
17. Kukulska-Hulme, A. (2009). Will mobile learning change language learning? *ReCALL, 21*(2), 157–165. https://doi.org/10.1017/S0958344009000202
18. Kukulska-Hulme, A., & Pettit, J. (2009). Practitioners as innovators: Emergent practice in personal mobile teaching, learning, work and leisure. In M. Ally (Ed.), *Mobile learning:*

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Transforming the delivery of education and training (pp. 135–155). Athabasca University Press.
19. Kukulska-Hulme, A., Traxler, J., & Pettit, J. (2007). Designed and user-generated activity in the mobile age. *Journal of Learning Design, 2*(1), 52–65.
20. Osang, F. B., Ngole, D. J., & Tsuma, D. C. (2013). Prospects and challenges of mobile learning implementation in Nigeria: Case study National Open University in Nigeria (NOUN). *International Conference on ICT for Africa*, February 20–23, Harare, Zimbabwe, 1–13.
21. Oyelere, S. S., Suhonen, J., Wajiga, G. M., & Sutinen, E. (2017). Design, development, and evaluation of a mobile learning application for computing education. *Education and Information Technologies*, 1–21. https://doi.org/10.1007/s10639-017-9613-2
22. Wang, Y.-S., Wu, M.-C., & Wang, H.-Y. (2009). Investigating the determinants and age and gender differences in the acceptance of mobile learning. *British Journal of Educational Technology, 40*(1), 92–118. https://doi.org/10.1111/j.1467-8535.2007.00809.x
23. Zhu, Q., Guo, W., & Hu, Y. (2012). *Mobile learning in higher education: Students' acceptance of mobile learning in three top Chinese universities* (Unpublished bachelor's thesis). Jönköping University.

Appendix I

The comprehension questions related to the audio presented to students in the listening activity

Science in the news, in VOA special English, Diseases spread by mosquitos, Comprehension Questions

1. How many kinds of mosquitos are there in the world?
2. Do male mosquitoes drink blood?
3. How many eggs does the female mosquito lay?
4. How does the female mosquito get the blood from the victim?
5. How long do the mosquito's eggs stay in water?
6. What is the most important disease spread by Mosquitoes?
7. How many people became infected with malaria in 2006?
8. How many people died by malaria in 2006?
9. In how many countries was the disease of malaria found?
10. How does a malaria parasite get into a person's blood?
11. Where do the malaria parasites grow and develop?
12. How do malaria parasites reproduce?
13. When a person can die from Malaria?
14. What are the diseases spread by mosquitoes?
15. Is there a cure for dingy fever?
16. What are the symptoms of dingy fever?
17. What is the other name of dingy fever?
18. How do you prevent mosquito bites?
19. What are some of the non-chemical methods tested by the WHO to fight mosquitos?

Appendix II

Post-application interview questions

1. Do you afford to purchase a smart phone?
2. Do you think that it is enough to listen to the materials inside the classroom sharing one of your classmates' phones?
3. Does anyone of your classmates live close to you where you can meet and share the listening material?

Do you think you can allocate sometime when you come to the college to listen to the materials presented and do the homework in the college before leaving home or any day before the next lecture?

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