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Mobile Learning Adoption Among the Younger and Older Generations of EFL Teachers

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ABSTRACT

This study investigated the mobile learning adoption of the younger generation of teachers (YGTs) (n=33) and the older generation of teachers (OGTs) (n=35). A questionnaire was designed to identify the perspectives of the participants. The perceptions of YGTs and OGTs on implementing mobile learning were different. Regarding the competence levels, the findings indicated that YGTs were moderately competent, whereas OGTs had a low level of competence in implementing mobile learning. While the YGTs were positive about mobile learning, the OGTs were neutral or moderately positive about mobile learning. Both YGTs and OGTs regarded training on implementing mobile learning as important or very important; however, the YGTs were more positive about training than the OGTs. The perceived factors that could affect the use of mobile learning by teachers included cultural factors, students, teachers, and educational directors' acceptance of mobile learning, teachers' classroom management ability, teachers' and students' digital literacy levels, and training. While the OGTs were slightly confident in implementing mobile learning, the YGTs seemed to be moderately confident in implementing mobile learning. The OGTs and YGTs never used or rarely used mobile learning activities to instruct different skills.

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قصة جيلين من المعلمين: تبني التعلم المتنقل بين جيلي المعلمين الأصغر والأكبر سنًا

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المُستخلص

بحثت هذه الدراسة في تبني التعلم المحمول من قبل الجيل الأصغر من المعلمين (33 مشاركًا) والجيل الأكبر سنًا من المعلمين (35 مشاركًا). تم تصميم استبيان لتحديد وجهات نظر المشاركين. تم الكشف عن اختلافات كبيرة فيما يتعلق بوجهات نظر الجيل الأصغر من المعلمين والجيل الأكبر سنًا من المعلمين حول تنفيذ التعلم المحمول. فيما يتعلق بمستويات الكفاءة، أشارت النتائج إلى أن الجيل الأصغر من المعلمين كان لديه مستوى متوسط من الكفاءة، في حين أن الجيل الأكبر سنًا من المعلمين كان لديه مستوى منخفض من الكفاءة في تنفيذ التعلم المحمول. بينما كانت الأجيال الأصغر سنًا من المعلمين إيجابية بشأن التعلم المحمول، كانت الأجيال الأكبر سنًا من المعلمين محايدة أو إيجابية إلى حد ما بشأن التعلم المحمول. بينما أبدت الأجيال الشابة من المعلمين تفاؤلاً تجاه التعلم عبر الهاتف المحمول، أبدت الأجيال الأكبر سناً تفاؤلاً محايداً أو متوسطاً تجاهه. اعتبر كلٌ من الأجيال الشابة والأجيال الأكبر سناً من المعلمين التدريب على تطبيق التعلم عبر الهاتف المحمول مهماً أو بالغ الأهمية؛ ومع ذلك، أبدت الأجيال الشابة من المعلمين تفاؤلاً أكبر تجاه التدريب مقارنةً بالأجيال الأكبر سناً. وشملت العوامل المُدركة التي قد تؤثر على تبني المعلمين للتعلم عبر الهاتف المحمول العوامل الثقافية، وقبول الطلاب والمعلمين والمديرين التعليميين له، وقدرة المعلمين على إدارة الفصول الدراسية، ومستويات المعرفة الرقمية لديهم، والتدريب. بينما كانت لدى الأجيال الأكبر سنًا من المعلمين ثقة طفيفة في تطبيق التعلم المتنقل، بدا أن الأجيال الأصغر سنًا من المعلمين واثقة منه إلى حد ما. لم يستخدم كلٌ من الأجيال الأكبر سنًا والأجيال الأصغر سنًا أنشطة التعلم المتنقل قط، أو نادرًا ما استخدموها، لتعليم مهارات لغوية ومهارات فرعية مختلفة.

الكلمات المفتاحية: التعلم المتنقل؛ الجيل الأصغر سنًا من المعلمين؛ الجيل الأكبر سنًا من المعلمين؛ المواقف؛ مستوى الثقة؛ التدريب

1. Introduction

Mobile learning is a robust and effective approach to learning that can make the learning and teaching experience more interactive, ubiquitous, and authentic. In recent years, educational experts have investigated the applicability of mobile learning for different learning and teaching aspects in the field of educational technology (Al-Quraishi, 2024). For example, the literature abounds with studies on mobile learning and assessment, mobile learning and digital game-based learning (DGBL), mobile learning and teacher education/training, mobile learning and online/distance learning, mobile learning and student retention, mobile learning, and self-regulated learning, mobile learning and teachers and students' attitudes, mobile learning and augmented reality, mobile seamless learning, mobile learning and students' digital literacy, mobile learning, and K-12 education.

In language learning settings, an extensive body of research has investigated the attitudes of students or teachers toward mobile learning or mobile-assisted language learning (MALL) (e.g., Dashtestani, 2016). As teachers occupy a remarkable role in students' adoption/acceptance of mobile

learning, this study draws on new and old generations of Iranian teachers' adoption of mobile learning and the factors that affect their acceptance of mobile learning. Having utilized a quantitative approach, the study delved into the differences and similarities among the teachers' viewpoints and perspectives.

2. Literature review

The previous literature on mobile learning has dealt with the role of teachers in the use of mobile learning. For example, Baek, Zhang, and Yun (2017) assessed teachers' perspectives on implementing mobile learning in the Korean educational context. The findings illustrated that Korean teachers were negative about mobile learning; however, the female teachers were more willing to use mobile learning in comparison to the male ones. Moreover, secondary school teachers had a higher acceptance level of mobile learning than high school teachers. Compared to the teachers of the other subjects, language teachers had the most positive views about mobile learning. More experienced teachers also showed more interest in using of mobile learning. Çelik and Karayaman (2018) reported on a study on mathematics teachers' attitudes toward mobile learning. They discussed that the teachers had a moderately positive attitude toward mobile learning. The male teachers had more positive attitudes than the female ones based on the findings of the study. While the teachers believed that mobile learning had a couple of advantages, they perceived that mobile learning was not an economical learning approach. In Kuwait, Al-Hunaiyyan, Alhajri, and Al-Sharhan (2018) explored higher education students' and instructors' attitudes toward mobile learning. They argued that the students enjoyed a high competence level in the use of mobile devices. They also reported that both the teachers and students were positive about mobile learning and used their social network sites frequently. On the contrary, the study uncovered several social and cultural obstacles which impeded the process of mobile learning implementation in Kuwait.

In Cyprus, Tezer and Beyoğlu (2018) investigated teachers' readiness for and acceptance of mobile learning. The results of the research indicated that there was a positive connection among attitudes, readiness, and acceptance with respect to mobile learning. More importantly, it was revealed that factors such as readiness and attitudes had a significant impact on the acceptance of mobile learning by the teachers. The study concluded that in order to increase the level of acceptance of mobile learning by teachers, both the attitudes and readiness of teachers should be taken into account and enhanced. In Malaysia, Mai (2015) examined teachers' attitudes toward technology use in education and mobile learning. The findings indicated that the science teachers adopted positive attitudes towards educational technology and mobile learning. Moreover, self-efficacy and perspectives about technology were predictors of attitudes toward mobile learning.

As for teachers' adoption of mobile learning, Dashtestani (2013) analyzed the views of English teachers about mobile learning and its potential for language teaching contexts in Iran. It was argued that the EFL teachers were somewhat positive about mobile learning. Furthermore, the teachers did not implement mobile learning for their teaching, and they required various training types regarding the proper use of mobile devices for language learning. In another similar study, Dogan and Akbarov (2016) pointed out that teachers of private and state schools held positive views toward mobile learning. The study also showed that some teachers implemented mobile learning and some did not. In addition, the negative attitudes of the learners and the lack of training were crucial impediments in the use of mobile learning. Saidouni and Bahloul (2016) investigated instructors' and students' perceptions of MALL. It was shown that both the teachers and students were positive about MALL. The implementation of MALL was regarded as appropriate for the teaching of culture and some language learning skills. The teachers reported that more training, provision of infrastructure, and time were required for the appropriate inclusion of MALL in the EFL curriculum. Aygül (2019) conducted a research study on EFL teachers' adoption of MALL. The pre-service teachers utilized their mobile devices for learning new lexical items on a regular basis and used their mobile devices for enhancing their writing skills. The teachers perceived that mobile learning was effective for fostering listening comprehension. They perceived a couple of benefits and advantages of mobile learning for the EFL classroom.

Given the fact that different generations have distinct attitudes and perceptions toward various technologies, there is a research gap in comparing and contrasting the older and younger generations of teachers' mobile learning practices and attitudes. Different generations experience the use of different technologies and may have different digital literacy levels and competencies. Since mobile technologies have recently been introduced to the educational context of Iran, older and younger teachers may perceive the role of mobile learning in a different way. Therefore, the current study was carried out in order to explore how Iranian younger and older teachers of EFL perceive mobile learning and what its role is in their teaching and pedagogical practices. The research questions are as follows:

1. What are OGTs' and YGTs' perspectives on their competence to implement mobile learning? Are the perspectives of OGTs and YGTs significantly different?
2. What are OGTs' and YGTs' attitudes toward implementing mobile learning? Are the perspectives of OGTs and YGTs significantly different?
3. What are OGTs' and YGTs' perspectives on the types of training they need for implementing mobile learning? Are there significant differences between the perspectives of OGTs and YGTs?
4. What are OGTs' and YGTs' perspectives on factors which affect the implementation of mobile learning? Are the perspectives of OGTs and YGTs significantly different?

5. What are OGTs' and YGTs' perspectives on their confidence level to implement mobile learning? Are the perspectives of OGTs and YGTs significantly different?
6. What are OGTs' and YGTs' perspectives on their current mobile-based teaching practices? Are the perspectives of OGTs and YGTs significantly different?
7. What are OGTs' and YGTs' perspectives on the priority of mobile learning for teaching language learning skills/sub-skills? Are the perspectives of OGTs and YGTs significantly different?

3. Methodology

3.1. Participants

The teachers taking part in the research were working at 12 famous language teaching centers in Tehran and Alborz, two cities in Iran. They were chosen based on their age in order to be grouped at the right generation level they belonged to. The categorization of generations was based on the framework proposed by Dimock (2019). Based on Dimock's classification, there are five generations starting from 1920. The first generation, Generation 1, includes people born from 1920 to 1945. The other generation is called Generation 2, who were born from 1946 to 1964. Generation 3 comprised individuals who were born from 1965 to 1980. The fourth generation is Generation 4, who were born from 1981 to 1996. The most recent generation is Generation 5, born from 1997 to 2012. To categorize the younger generation of teachers (YGTs) in this study, Generations 3 and 4 (born 1946-1980) were included in the study. The older generation of teachers (OGTs) consisted of Generations 4 and 5 (born 1981-2012). The information about the two cohorts of teachers is shown in Tables 1 and 2. Both groups of teachers reported that they were acquainted with mobile learning and had a moderate level of digital literacy. The YGTs had an average of 9 years of experience, and the OGTs had an average of 22 years of experience in teaching EFL. All the participants had at least 2 years of experience in TEFL. The average age of the YGTs was 26.09, and the average age of the OGTs was 48.91.

Table 1. Information of the YGTs taking part in the research

Generation 5 (Born 1997-2012)	***7-22***
Number of participants: 11	Age range: 20-22
Generation 4(Born 1981-1996)	***23-38***
Number of participants: 22	Age range: 23-37

Table 2. Information of the OGTs taking part in the research

Generation 3 (Born 1965-1980)	***39-54***
Number of participants: 26	Age range: 39-53
Generation 2 (1946-1964)	***55-65***
Number of participants: 9	Age range: 55-59

3.2. Instrument

A quantitative approach was taken into account to answer the research questions. The OGTs and YGTs were given a questionnaire that was constructed taking into account the principles and theoretical frameworks on teachers' adoption of mobile learning. In order to gear the questions of the questionnaire to the context and the participants' features, interviews with some teachers were conducted. Moreover, a group of six experts on educational technology, who were university professors and were interested in mobile learning, took part in several consultation sessions in order to evaluate and check the items of the questionnaires. The group of experts commented on the items and requested some modifications and amendments for some of the items and the deletion of other items. The survey included 66 Likert scale items. Seven factors were considered in the questionnaire: "competence in implementing mobile learning" (Item 1 to Item 11), "attitudes towards mobile learning" (Item 12 to Item 24), "types of training required for implementing mobile learning" (Item 25 to Item 35), "factors which affect the implementation of mobile learning" (Item 36 to Item 44), "teachers' confidence levels to implement mobile learning" (Item 45 to Item 52), "current mobile-based teaching practices" (Item 53 to Item 59), and "priority of mobile learning for teaching language learning skills/sub-skills" (Item 60 to Item 66). Regarding the Cronbach's Alpha index for establishing the reliability of the instrument, an adequate rate of reliability was identified for each section of the questionnaire (Section 1=0.694, Section 2=0.646, Section 3=0.687, Section 4=0.641, Section 5=0.884, Section 6=0.608, Section 7=0.706). The Cronbach's Alpha level of the whole questionnaire equaled 0.911, which showed a very high level of reliability.

All the ethical aspects were considered, and the questionnaire participants took part in the study voluntarily. Both online and print versions of the questionnaires were used in order to increase the response rate. The teachers were told that all the data obtained from them will be kept anonymous and confidential. A brief consent statement was included at the beginning of the questionnaires.

3.3. Data analysis

Since a quantitative methodology was considered in this study, quantitative analyses were carried out. For the estimation of the reliability of the questionnaire, the test of Cronbach's Alpha was used. The data related to each item of the questionnaire were shown based on the mean and standard deviation. The significant differences between the perspectives of the participants were identified using the Mann-Whitney U test, which is a non-parametric test. SPSS 16 was utilized to analyze the data of the study.

4. Results

4.1. Teachers' competence to implement mobile learning

Table 3 indicates OGTs and YGTs' perspectives on their competence to implement mobile learning. The results show that there were significant differences between the OGTs and YGTs' perspectives based on the results of the Mann-Whitney U test. Based on the findings, it can be suggested that while the YGTs reported that they had a moderate level of competence in the majority of items related to implementing mobile learning, the OGTs reported that they had a low level of competence in implementing mobile learning. The only item about which the two groups had consensus was Item 11 in which the two groups mentioned that they had a low level of competence in the principles of educational technology/CALL.

Table 3. OGTs and YGTs' perspectives on their competence to implement mobile learning

Items	**Participants**	**M**	**SD**	**Mann-Whitney U**	**sig**
1. Knowing how to combine teaching techniques with mobile learning	***OGT***	2.05	0.93	364.500	**0.007***
	YGT	2.87	1.24		
2. Knowing how to design simple learning tasks for a mobile device	***OGT***	1.37	0.73	350.500	**0.002***
	YGT	2.03	1.04		
3. Knowing how to create interactive learning environments through mobile devices	***OGT***	2.31	1.07	392.500	**0.012***
	YGT	2.90	0.94		
4. Knowing how to use mobile-based CMC tools/applications for language teaching	***OGT***	2.65	0.87	354.500	**0.004***
	YGT	3.36	1.05		
5. Knowing how to include mobile learning in your lesson plan	***OGT***	2.88	1.27	404.000	**0.028***
	YGT	3.66	1.53		
6. Knowing how to choose appropriate mobile learning applications for learning/teaching	***OGT***	2.60	0.88	343.500	**0.002***
	YGT	3.42	1.09		

purposes

7. Knowing how to manage the classroom when using mobile devices in the classroom	***OGT*** **YGT**	2.97 3.96	1.24 0.84	326.000	**0.001***
8. Knowing how to design basic mobile-based learning software tools/applications for language learning	***OGT*** **YGT**	1.42 2.06	0.94 1.14	349.000	**0.002***
9. Knowing how to implement mobile learning for each language skill (writing, reading, speaking, etc.)	***OGT*** **YGT**	2.11 2.93	1.20 1.27	363.500	**0.007***
_10. Knowing the principles/techniques of mobile learning	***OGT*** **YGT**	1.57 2.24	1.00 1.43	426.000	**0.040***
11. Knowing the principles/techniques of educational technology /CALL	***OGT*** **YGT**	2.34 2.57	0.93 1.32	571.000	0.534

4.2. Teachers' attitudes toward implementing mobile learning

Regarding the OGTs' and YGTs' attitudes toward implementing mobile learning, significant differences were observed between the two groups of participants. There was agreement on the benefits of mobile learning, including creating interactive environments and collaborative learning. Overall, the YGTs had a more positive attitude towards mobile learning in comparison to the OGTs. While the YGTs were positive about mobile learning, the OGTs were neutral or moderately positive about mobile learning (Table 4).

Table 4. OGTs and YGTs' attitudes toward implementing mobile learning

Items	**Participants**	**M**	**SD**	**Mann-Whitney U**	**sig**
1. Mobile learning enhances ubiquitous	***OGT*** **YGT**	3.71 4.30	0.89 0.76	354.000	**0.003***

learning					
2. Mobile learning improves students' retention of the learning content	***OGT*** **YGT**	3.45 4.51	1.17 1.00	247.500	**0.000***
3. Mobile learning promotes collaborative learning	***OGT*** **YGT**	3.88 4.18	0.96 0.68	492.500	0.261
4. Mobile learning fosters students' autonomy	***OGT*** **YGT**	3.68 4.21	1.05 0.59	420.000	**0.038***
5. Mobile learning motivates EFL students	***OGT*** **YGT**	3.91 4.30	0.65 0.58	405.500	**0.015***
6. Mobile learning facilities the learning based on students' styles/strategies	***OGT*** **YGT**	3.57 4.15	1.14 0.56	423.000	**0.039***
7. Mobile learning makes learning more interactive	***OGT*** **YGT**	3.82 4.06	0.74 0.82	485.000	0.216
8. Mobile learning is convenient	***OGT*** **YGT**	3.45 4.30	1.09 0.91	308.000	**0.000***
9. Mobile learning is an effective teaching tool	***OGT*** **YGT**	3.60 4.33	1.15 0.69	380.500	**0.010***
_10. Mobile learning helps to flip EFL learning	***OGT*** **YGT**	3.57 4.24	1.33 1	415.000	**0.035***
_ 11. Mobile learning gives teachers new pedagogical choices	***OGT*** **YGT**	3.57 4.15	1.24 1.17	399.000	**0.021***
12. Mobile learning creates authentic learning environments	***OGT*** **YGT**	2.94 4.21	1.28 0.54	250.000	**0.000***

13. Mobile learning Promotes students/ teachers' digital literacy levels	***OGT*** **YGT**	3.82 4.42	0.78 0.66	340.000	**0.002***

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4.3. Types of training required for implementing mobile learning

The values shown in Table 5 reveal the OGTs' and YGTs' perspectives on the types of training required for implementing mobile learning. While there existed significant differences between the perspectives of the two groups, both groups regarded training as important or very important. The participants of both cohorts had an agreement that training on classroom management and training on implementing informal mobile learning were important types of training. The participants regarded training on the use of mobile devices for teaching language skills and sub-skills, training on using mobile-based application/software tools, training on the principles of mobile learning, training on combining language teaching techniques/methods and mobile learning, training on fostering their digital literacy level, training on including mobile learning techniques in their lesson plan, training on producing mobile-based instructional materials/resources, and training on the principles of educational technology/(CALL) as important.

Table 5. OGTs and YGTs' perspectives on types of training required for implementing mobile learning

Items	**Participants**	**M**	**SD**	**Mann-Whitney U**	**sig**
1. Training on the use of mobile devices for teaching language skills and sub-skills	***OGT*** **YGT**	3.91 4.36	0.98 0.74	428.000	**0.049***
2. Training on using mobile-based application/software tools	***OGT*** **YGT**	4.00 4.39	0.72 0.70	399.500	**0.016***
3. Training on the principles of mobile learning	***OGT*** **YGT**	3.80 4.30	0.63 0.52	345.500	**0.001***
4. Training on combining language	***OGT*** **YGT**	3.91 4.45	0.85 0.50	373.5000	**0.006***

teaching techniques /methods and mobile learning					
5. Training on classroom management when implementing mobile learning	***OGT*** **YGT**	4.00 4.09	0.73 0.94	412.500	0.308
6. Training on fostering my digital literacy level	***OGT*** **YGT**	3.97 4.06	0.74 0.78	410.000	**0.025***
7. Training on including mobile learning techniques in my lesson plan	***OGT*** **YGT**	3.68 4.24	0.71 0.83	339.500	**0.002***
8. Training on producing mobile-based instructional materials/resources	***OGT*** **YGT**	3.85 4.30	0.87 0.80	410.000	**0.029***
9. Training on developing mobile-based informal learning (outside the classroom) for students	***OGT*** **YGT**	3.94 4.09	0.68 0.76	519.000	0.430
_10. Training on assessing students based on mobile learning principles	***OGT*** **YGT**	3.54 4.18	1.19 0.63	417.000	**0.030***
_ 11. Training on the principles of educational technology / (CALL)	***OGT*** **YGT**	4.02 4.51	0.85 0.56	395.000	**0.014***

4.4. Factors that influence the use of mobile learning

Table 6 demonstrates the OGTs' and YGTs' perspectives on factors that influence the use of mobile learning. There was an agreement on the importance of some factors, including cultural factors, students' acceptance of mobile learning, teachers' acceptance of mobile learning, educational directors' acceptance of mobile learning, teachers' classroom management ability, teachers' and students' digital literacy, and training.

Table 6. OGTs and YGTs' perspectives on factors that affect the implementation of mobile learning

Items	**Participants**	**M**	**SD**	**Mann-Whitney U**	**sig**
1. Cultural factors	***OGT***	4.40	0.60	514.000	0.379
	YGT	4.51	0.61		
2. Socio-economic factors	***OGT***	3.14	1.03	314.500	**0.001***
	YGT	4.03	0.88		
3. Students' acceptance of mobile learning	***OGT***	4.14	0.73	457.500	0.107
	YGT	4.36	0.85		
4. Teachers' acceptance of mobile learning	***OGT***	4.22	0.73	498.000	0.281
	YGT	4.36	0.82		
5. Educational directors' acceptance of mobile learning	***OGT***	4.25	0.74	476.000	0.176
	YGT	4.48	0.66		
6. Teachers' classroom management ability	***OGT***	3.97	0.94	482.000	0.180
	YGT	4.21	0.54		
7. The type of curriculum (top-down, bottom-up, etc.)	***OGT***	3.51	1.12	462.000	0.107
	YGT	4.00	0.61		
8. Teachers'/students' digital literacy levels	***OGT***	4.36	0.73	403.000	**0.017***
	YGT	4.48	0.50		
9. Training teachers /students	***OGT***	4.31	0.67	506.500	0.335
	YGT	4.42	0.79		

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4.5. Confidence levels to implement mobile learning

Table 7 shows the OGTs' and YGTs' perspectives on their confidence levels to implement mobile learning. Based on the results of the Mann-Whitney U test, there were significant differences between OGTs' and YGTs' perspectives on their confidence levels to implement mobile learning. While the OGTs were slightly confident in implementing mobile learning, the YGTs seemed to be moderately confident in the implementation of mobile learning.

Table 7. OGTs and YGTs' perspectives on their confidence levels in implementing mobile learning

Items	Participants	M	SD	Mann-Whitney U	sig
1. I can implement mobile learning in my class	***OGT***	1.97	0.98	65.000	**0.000***
	YGT	4.09	0.72		
2. I can encourage my students to use mobile devices for learning outside the classroom	***OGT***	2.20	0.98	165.000	**0.000***
	YGT	3.87	0.89		
3. I can train my students how to use mobile devices for learning	***OGT***	2.34	1.10	176.500	**0.000***
	YGT	4.06	1.14		
4. I can introduce appropriate mobile-based language learning applications to my students	***OGT***	2.02	1.17	164.000	**0.000***
	YGT	3.87	1.13		
5. I can update my knowledge about mobile learning	***OGT***	2.48	0.95	106.000	**0.000***
	YGT	4.42	0.92		
6. I can allow my students to use their Mobile devices in the classroom	***OGT***	1.54	0.98	171.500	**0.000***
	YGT	3.45	1.39		
7. I can make my students aware about the benefits of mobile learning For language learning	***OGT***	2.82	1.20	230.000	**0.000** *
	YGT	4.18	0.91		

8. I can have control over my students' use of mobile devices for learning outside the classroom	***OGT***	1.8	1	116.500	**0.000** *
	YGT	3.75	0.93		

4.6. Current mobile-based teaching practices

Based on the figures shown in Table 8, both the OGTs and YGTs never used or rarely used mobile learning activities for teaching different skills. Except for listening comprehension, speaking, and grammar about which the participants had an agreement, the participants had different perspectives on their implementation of mobile learning for teaching reading comprehension, writing, vocabulary, and pronunciation.

Table 8. OGTs and YGTs' perspectives on their current mobile-based teaching practices

Items	**Participants**	**M**	**SD**	**Mann-Whitney U**	**sig**
1. Implementing mobile learning for teaching reading comprehension	***OGT***	1.31	0.96	359.000	**0.001***
	YGT	2.06	1.22		
2. Implementing mobile learning for teaching writing	***OGT***	1.17	0.45	253.000	**0.000***
	YGT	2.21	1.11		
3. Implementing mobile learning for teaching listening	***OGT***	1.51	1.02	446.000	0.061
	YGT	1.96	1.15		
4. Implementing mobile learning for teaching speaking	***OGT***	1.68	0.23	518.000	0.415
	YGT	1.93	1.14		
5. Implementing mobile learning for teaching grammar	***OGT***	1.48	0.88	514.500	0.344
	YGT	1.78	1.29		
6. Implementing mobile learning for teaching vocabulary	***OGT***	1.65	1.05	369.000	**0.006***
	YGT	2.48	1.32		

7. Implementing mobile learning for teaching pronunciation	***OGT*** **YGT**	1.71 2.60	1.22 1.80	420.000	**0.030***

4.7. Priority of mobile learning skills

Table 9 depicts that both the OGTs and YGTs reported on the importance of implementing mobile learning for teaching vocabulary. While the YGTs regarded the implementation of mobile learning for teaching language skills/sub-skills as a high priority, the OGTs considered the implementation of mobile learning for teaching language skills/sub-skills as a low to medium priority. In general, the perspectives of the two cohorts of teachers were different.

Table 9. OGTs' and YGTs' perspectives on the priority of mobile learning for teaching language learning skills/sub-skills

Items	**Participants**	**M**	**SD**	**Mann-Whitney U**	**sig**
1. Importance of implementing mobile learning for teaching reading comprehension	***OGT*** **YGT**	2.97 4.18	1.15 0.88	235.500	**0.000***
2. Importance of implementing mobile learning for teaching writing	***OGT*** **YGT**	2.54 3.93	1.14 0.74	205.000	**0.000***
3. Importance of implementing mobile learning for teaching listening	***OGT*** **YGT**	3.28 4.33	1.17 0.88	282.500	**0.000***
4. Importance of implementing mobile learning for teaching speaking	***OGT*** **YGT**	2.42 4.12	1.06 1.11	167.500	**0.000***

5. Importance of implementing mobile learning for teaching grammar	***OGT*** **YGT**	3.88 4.69	0.93 0.68	287.000	**0.000***
6. Importance of implementing mobile learning for teaching vocabulary	***OGT*** **YGT**	3.85 4.03	1 0.95	527.000	0.510
7. Importance of implementing mobile learning for teaching pronunciation	***OGT*** **YGT**	3.85 4.48	1.19 0.66	416.500	**0.033***

5. Discussion and conclusion

The study explored whether YGTs perceive mobile learning differently from OGTs. In general, significant differences between the perspectives of both groups of participants were detected. This finding is important in that it can make educational directors aware that each generation of teachers might need specific training and preparation. One considerable fallacy regarding the research on educational technology and CALL is the lack of attention to the older generations of teachers. The older generations of teachers were born at a time that technology was not available and they were exposed to technology at older ages. In contrast, the younger generations of teachers were born in a context in which technology was a sine qua non and was available at anytime and anywhere. The other shortcoming is a clear lack of empirical studies comparing the needs and perceptions of teachers and students from different generations. Taking into account the popularity and common use of mobile devices for learning and teaching, future research can investigate many parameters and aspects of mobile learning in relation to different generations of teachers and students. Such research can provide precious information on the suitability of current teacher training/education courses, digital literacy improvement measures, and CALL-based learning and teaching tasks and activities. One significant implication of this study is the fact that the older generations of teachers perceive technology differently and need more training and preparatory measures.

Regarding the competence of EFL teachers in implementing mobile learning, significant differences existed between the perspectives of OGTs and YGTs. The YGTs believed that they had a moderate level of competence, while the OGTs perceived to have a low level of competence in implementing mobile learning. This finding is in contrast to the finding of Al-Hunaiyyan, Alhajri, and Al-Sharhan (2018) which reported on the high competence levels of teachers in using mobile devices. The competence in implementing mobile learning and CALL is an essential benefit for all teachers nowadays. For older teachers, the competence in implementing mobile learning can be a more complicated issue. Those teachers who are older may use technology less frequently than the younger ones. It is required that plans and measures be offered in order to enhance the competence levels of EFL teachers.

The findings also illustrated that the YGTs were more positive about mobile learning than the OGTs. This can be a consequence of the higher digital literacy levels of younger teachers or their more frequent use of mobile devices. Previous studies also revealed the positive attitudes of teachers toward mobile learning (Çelik & Karayaman, 2018; Dashtestani, 2013; Mai, 2015). The research findings depicted that different generations of teachers can have different attitudes toward mobile learning. When measuring teachers' attitudes towards a type of technology, it is paramount that other variables related to teachers such as age and generation be taken into account. More research is needed in order to explore why younger teachers have more positive attitudes toward mobile learning. This issue can also show that the older generations of teachers may need more awareness-raising and support in order to include mobile learning in their educational activities.

The results indicated that training was a required dimension of mobile learning implementation from the perspectives of the teachers. The necessity of providing training for teachers was also echoed in previous studies (Dogan & Akbarov, 2016; Saidouni & Bahloul, 2016). The teachers of both groups had a consensus that training on classroom management and training on implementing informal mobile learning was required. One obstacle to mobile learning implementation by teachers is that many teacher trainers and educational directors may believe that the educational use of mobile devices is the same as using mobile devices for non-educational purposes. The majority of teachers are not trained for the appropriate use of learning technologies, including mobile technologies, and if they use mobile devices for some educational purposes, but in a problematic manner. There were discrepancies between the perspectives of OGTs and YGTs on the types of training required for mobile learning implementation. This finding implies that training for the proper implementation of MALL should be specialized for teachers with different characteristics. All EFL teachers should not be trained in the same way. Many OGTs may need the promotion of their digital literacy as well. This might not be the case for younger generations of teachers.

It can be concluded that mobile learning cannot be succeeded without having teachers who have a comprehensive and adequate understanding of the potential and risks of mobile learning for different groups of language learners. Educational policymakers and course designers are invited to support more large-scale research studies on the topic of training teachers for implementing mobile learning. Some training types might be completely context-based.

Most important of all is the perspective of teachers about parameters that influence the implementation of mobile learning in EFL contexts. The teachers of both groups had an agreement on the presence of a couple of factors based on the results of the study. One factor which can indirectly have an impact on the adoption of mobile learning is the cultural issues regarding mobile learning. Many learners may not be accustomed to the technology-enhanced approaches to learning in developing countries. Mobile devices are gadgets for spending time and doing recreational activities. Therefore, it is essential that both students and teachers come to the understanding that mobile learning is an important tool for them. Educational stakeholders' positiveness about mobile learning is the other factor that can influence the inclusion of mobile learning in educational contexts. The teachers in this research were conscious about the fact that without accepting mobile learning as a staunch educational tool, the implementation of mobile learning will not be feasible. Awareness-raising measures can occupy a pivotal role in increasing the acceptance level of educational stakeholders about mobile learning and its benefits for all those involved in the process of learning and teaching. Students and teachers' digital literacy levels were also other factors that could affect the inclusion of mobile learning. in the EFL class.

Concerning the confidence level of the participants, the YGTs were moderately confident in implementing mobile learning, but the OGTs were slightly confident in implementing mobile learning. There is a link between the confidence and competence levels of teachers. The confidence levels of YGTs and OGTs was different. Enhancing teachers' competence levels, digital literacy levels, attitudes, and acceptance of mobile learning can have an impact on the confidence levels of teachers in implementing mobile learning. Both the OGTs and YGTs did not implement or rarely implemented mobile learning in their classes. Except for vocabulary teaching, the OGTs and YGTs did not have a consensus on the effectiveness of using mobile learning for other language skills

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Appendix

MALL Questionnaire

Section One

Sex: **Years of teaching experience:**

Age: **How many years have you used technology for teaching?**

Section 1: Teachers' competence to implement mobile learning

Choose the most suitable item.

	1. Not competent at all	**2. Low level of competence**	**3. Moderate level of competence**	**4. Competent**	**5. High level of competence**
1	Knowing how to combine teaching techniques with mobile learning	☐	☐	☐	☐ ☐
2	Knowing how to design simple learning tasks for a mobile device	☐	☐	☐	☐ ☐
3	Knowing how to create interactive learning environments through mobile devices	☐	☐	☐	☐ ☐
4	Knowing how to use mobile-based CMC tools/applications for language teaching	☐	☐	☐	☐ ☐
5	Knowing how to include mobile learning in your lesson plan	☐	☐	☐	☐ ☐
6	Knowing how to choose appropriate mobile learning applications for learning/teaching purposes	☐	☐	☐	☐ ☐
7	Knowing how to manage the classroom when using mobile devices in the classroom	☐	☐	☐	☐ ☐
8	Knowing how to design basic mobile-based learning software tools/applications for language learning	☐	☐	☐	☐ ☐
9	Knowing how to implement mobile learning for each language skill (writing, reading, speaking, etc.)	☐	☐	☐	☐ ☐
10	Knowing the principles/techniques of mobile learning	☐	☐	☐	☐ ☐
11	Knowing the principles/techniques of educational technology / CALL				

Section 2: Teachers' attitudes toward implementing mobile learning

Choose the most suitable item.

No.	Items	1. Strongly Disagree	2. Disagree	3. Neither agree nor disagree	4. Agree	5. Strongly Agree
1	Mobile learning enhances ubiquitous learning	☐	☐	☐	☐	☐
2	Mobile learning improves students' retention of the learning content	☐	☐	☐	☐	☐
3	Mobile learning promotes collaborative learning	☐	☐	☐	☐	☐
4	Mobile learning fosters students' autonomy	☐	☐	☐	☐	☐
5	Mobile learning motivates EFL students	☐	☐	☐	☐	☐
6	Mobile learning facilitates the learning based on students' styles/strategies	☐	☐	☐	☐	☐
7	Mobile learning makes learning more interactive	☐	☐	☐	☐	☐
8	Mobile learning is convenient	☐	☐	☐	☐	☐
9	Mobile learning is an effective teaching tool	☐	☐	☐	☐	☐
10	Mobile learning helps to flip EFL learning	☐	☐	☐	☐	☐
11	Mobile learning gives teachers new pedagogical choices	☐	☐	☐	☐	☐
12	Mobile learning creates authentic learning environments	☐	☐	☐	☐	☐
13	Mobile learning promotes students'/teachers' digital literacy levels	☐	☐	☐	☐	☐

Section 3: Types of training required for implementing mobile learning

Choose the most suitable item.

No.	Items	1. Not important at all	2. Slightly important	3. Moderately important	4. Important	5. Very important
1	Training on the use of mobile devices for teaching language skills and sub-skills	☐	☐	☐	☐	☐
2	Training on using mobile-based application/software tools	☐	☐	☐	☐	☐
3	Training on the principles of mobile learning	☐	☐	☐	☐	☐
4	Training on combining language teaching techniques/methods and mobile learning	☐	☐	☐	☐	☐
5	Training on classroom management when implementing mobile learning	☐	☐	☐	☐	☐
6	Training on fostering my digital literacy level	☐	☐	☐	☐	☐
7	Training on including mobile learning techniques in my lesson plan	☐	☐	☐	☐	☐
8	Training on producing mobile-based instructional materials/resources	☐	☐	☐	☐	☐
9	Training on developing mobile-based informal learning (outside the classroom) for students	☐	☐	☐	☐	☐
10	Training on assessing students based on mobile learning principles	☐	☐	☐	☐	☐
11	Training on the principles CALL	☐	☐	☐	☐	☐

Section 4: Factors that affect the implementation of mobile learning

Choose the most suitable item.

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No.	Items	1. Not important at all	2. Slightly important	3. Moderately important	4. Important	5. Very important
1	Cultural factors	☐	☐	☐	☐	☐
2	Socio-economic factors	☐	☐	☐	☐	☐
3	Students' acceptance of mobile learning	☐	☐	☐	☐	☐
4	Teachers' acceptance of mobile learning	☐	☐	☐	☐	☐
5	Educational directors' acceptance of mobile learning	☐	☐	☐	☐	☐
6	Teachers' classroom management ability	☐	☐	☐	☐	☐
7	The type of curriculum (top-down, bottom-up, etc.)	☐	☐	☐	☐	☐
8	Teachers'/students' digital literacy levels	☐	☐	☐	☐	☐
9	Training teachers/students	☐	☐	☐	☐	☐

Section 5: Confidence levels to implement mobile learning

Choose the most suitable item.

No.	Items	1. Not confident at all	2. Slightly confident	3. Moderately confident	4. Confident	5. Very confident
1	I can implement mobile learning in my class	☐	☐	☐	☐	☐
2	I can encourage my students to use mobile devices for learning outside the classroom	☐	☐	☐	☐	☐
3	I can train my students how to use mobile devices for learning	☐	☐	☐	☐	☐
4	I can introduce appropriate mobile-based language learning applications to my students	☐	☐	☐	☐	☐
5	I can update my knowledge about mobile learning	☐	☐	☐	☐	☐
6	I can allow my students to use their mobile devices in the classroom	☐	☐	☐	☐	☐
7	I can make my students aware about the benefits of mobile learning for language learning	☐	☐	☐	☐	☐
8	I can have control over my students' use of mobile devices.					

Section 6: Current mobile-based teaching practices

Choose the most suitable item.

No.	Items	1. Never using	2. Rarely using	3. Sometimes using	4. Usually using	5. Always using
1	Implementing mobile learning for teaching reading comprehension	☐	☐	☐	☐	☐

2 Implementing mobile learning for teaching writing ☐ ☐ ☐ ☐ ☐

3 Implementing mobile learning for teaching listening ☐ ☐ ☐ ☐ ☐

4 Implementing mobile learning for teaching speaking ☐ ☐ ☐ ☐ ☐

5 Implementing mobile learning for teaching grammar ☐ ☐ ☐ ☐ ☐

6 Implementing mobile learning for teaching vocabulary ☐ ☐ ☐ ☐ ☐

7 Implementing mobile learning for teaching pronunciation ☐ ☐ ☐ ☐ ☐

Section 7: Priority of mobile learning for teaching language learning skills/sub-skills

Choose the most suitable item.

No. Items 1. Not a priority 2. Low priority 3. Medium priority 4. High priority 5. Essential

1 MALL for teaching reading comprehension ☐ ☐ ☐ ☐ ☐

2 MALL for teaching writing ☐ ☐ ☐ ☐ ☐

3 MALL learning for teaching listening ☐ ☐ ☐ ☐ ☐

4 MALL for teaching speaking ☐ ☐ ☐ ☐ ☐

5 MALL for teaching grammar ☐ ☐ ☐ ☐ ☐

6 MALL for teaching vocabulary ☐ ☐ ☐ ☐ ☐

7 MALL for teaching pronunciation ☐ ☐ ☐ ☐ ☐