

Impact of Mobile Assisted Language Learning on Learner Autonomy in EFL Reading Context

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Traditional classrooms confine English as a Foreign Language (EFL) reading to the textbook and the classroom setting, something that demotivates active reading. With the advent of mobile technology, however, such boundaries can be broken to include external reading materials where students could read and share anytime and anywhere. This paper investigates the role of mobile technology in enhancing Learner Autonomy (LA) in the EFL reading context among students in the Preparatory Year (PY) of Najran University in Saudi Arabia. A reading class of 30 students utilised mobile applications (WhatsApp and internet search engines such as Google) to access external reading materials and interact with their peers and teachers outside the classroom. Qualitative data collection underwent a number of procedures. The baseline data was constructed from the students' portfolios, which reported the participants' traditional reading practices and use of mobiles. Then, the participants were encouraged to use internet search engines and WhatsApp group to share their readings. Finally, five participants were interviewed. The data analysis revealed that the participants' LA is improved through the use of selected mobile applications in terms of taking responsibility for and making decisions about reading materials and the time and place of reading. The study recommends further investigation into the role of mobile applications for generating learners' own tasks and writing skills.

Keywords: EFL reading, learner autonomy, MALL, mobiles, motivation, Saudi Arabia

With the advent of communications technology, many aspects of life have been in a state of a flux, including language learning systems. This change is brought about by young people, technology of communication (Buckingham, 2001), and the worldwide use of the English language. English as Foreign Language (EFL) learners can enjoy their own learning through innovative learning methods. Learner Autonomy (LA) is an approach that involves learners in mediated mental activities, so they become in charge of their own language learning (Benson & Voller, 2014).

In traditional EFL classes, Saudi learners show low levels of motivation in reading skills. This is because the nature of teaching and learning, reading practices is mostly confined to the textbook and the classroom settings at schools where most reading is done in the form of intensive reading (Al-Nujaidi, 2003). Based on the researchers' experience, students join universities as exam-driven learners. This is because they are

used to being spoon-fed with knowledge, and thus almost zero interaction occurs. This phenomenon has caused learners to become educationally isolated, less interactive, and less motivated (Nezami, 2012). Learning a foreign language in a country where almost all of the people speak only the mother tongue dramatically reduces the possibility of mastering that language and makes it almost impossible to have constant and immediate access to people who can assist learners with practicing, learning, and communicating in the new language (Kukulska-Hulme, 2016).

Furthermore, it has been noticed that although smartphones are often prohibited in the classroom, there are attempts by students to use them secretly for learning inside the classroom (Hazaea & Alzubi, 2016). This utilisation can be considered a sort of motivation. EFL learners could use mobile applications to improve a sense of LA (Castillo & Bonilla, 2014; Leis, Tohei, & Cooke, 2015) in EFL reading if urged to access and reflect on extra reading materials in connection with

the reading textbooks or various materials of their own choice. It is assumed that if students are encouraged to employ certain mobile applications for EFL reading, they may be motivated in terms of choice of reading materials, time, and place of reading.

In the Saudi context, the role of mobiles in fostering LA has not been directly addressed. The review of literature shows a dire need to highlight a student-centred learning approach in order to promote more independence, confidence, and freedom of material choice inside and outside the classroom (Al-Jarf, 2012; Al-Shehri, 2011; Farooq, 2013; Palfreyman, 2012; Thabit & Dehlawi, 2012).

Therefore, this may be the time to explore the role of Mobile-Assisted Language Learning (MALL) in enhancing the learning process in Saudi Arabia. MALL emerged from Computer-Assisted Language Learning (CALL) and its appropriateness has proved to be of great value for learning (Chinnery, 2006; Kukulska-Hulme, 2009, 2012). MALL provides EFL learners with the chance to experience new learning modes that go beyond the classroom context, offering them more flexibility, choices in terms of language content, ways of delivery, learning space, and time, thereby enhancing autonomy (Djoub, 2014; Kukulska-Hulme, 2016).

The present qualitative paper is part of a large project on the efficiency of using mobiles in EFL reading contexts (Hazaea & Alzubi, 2016). It employs an action research design to investigate the use of selected mobile applications (namely; WhatsApp and internet search engines) for enhancing LA in EFL reading contexts in the Preparatory Year of Najran University in Saudi Arabia through a) the search for reading materials, and b) the flexibility of time and place of reading.

Research Questions

1. What is the role of internet search engines in motivating students' choices of reading materials?
2. What is the role of WhatsApp in motivating students to read regardless of time and place constraints?

Literature Review

In light of the research questions, this section scrutinizes the existing literature about Learner Autonomy (LA) in the EFL context. Then, it develops a conceptual framework of MALL with relevant mobile applications. In so doing, it focuses on two dimensions of LA: the choice of reading materials, and the flexibility of time and place of reading.

Learner Autonomy in the EFL Context

Learner autonomy (LA) refers to the capacity of learners to learn actively in independent settings (Little, 1991). This capacity involves the motivation (Little, 2006) to learn without the constraints of time and place of learning. LA is also defined as "the ability to take charge of one's own learning" (Holec, 1981 p. 3). This paper subsumes these two definitions and operationalises LA as the ability of EFL learners to take charge of their reading in independent settings. This definition entails learners being responsible for making decisions about their learning in terms of finding reading materials regardless of time and place of reading.

LA motivates learners. Little (1991) argues that learners are highly motivated once they take charge of their learning. In this case, the role of teachers becomes paving the way and empowering learners to establish a sense of responsibility and freedom to choose what and how to learn without the constraints of time and place of learning (Benson, 2001). Motivation can also be seen in a reader's independence, responsibility, and choice of reading materials (Dickinson, 1995). It falls into two categories: intrinsic and extrinsic motivation. According to Ryan and Deci (2000), intrinsic motivation entails only the free will of the reader for being interested in doing an activity or reading a topic as the only motive to do it. Extrinsic motivation indicates an external pressure to do an activity like the promise of a reward. This motivation is likely to work in foreign language learning settings where learners have not developed intrinsic motivation yet (Ryan & Deci, 2000). In a word, autonomous EFL readers must acquire both intrinsic and extrinsic motivation (Oxford, 2003) to perform well.

Previous research shows that LA motivates learners. Wang and Palincsar (1989) found that the more learners are responsible for their own learning, the more they are motivated to learn. Dickinson (1995) argues that motivation and LA share certain key features: reader independence, responsibility, and choice. Chia (2005) found that the ability to self-access learning materials helped students slightly improve autonomy; the students welcomed the idea of making decisions and taking charge of their own reading. Haseborg (2012) claimed an increase in students' motivation based on the autonomous learning choices. Castillo and Bonilla (2014) reported Colombian school students' enhancement in making decisions for learning, doing homework, increasing reading awareness, and motivation upon giving them the choice of reading materials.

A review of the literature also shows an existing gap for EFL reading autonomy in the Saudi context. Some studies focused on teachers' and students' perceptions

on the use of LA. In a survey of EFL undergraduates' reading interests, Al-Nafisah (2011) showed that the students read for improving their language and academic achievements; they read to keep in touch with local, economic, cultural, scientific, and political developments, improving their local status, and maintaining up-to-date knowledge of what had been taking place. Farooq (2013) revealed that teachers are aware of the concept of LA, but most of them do not practice it due to the curriculum and physical constraints. On the other hand, students want to be the best in the class, but they lack motivation and training to be autonomous learners. Similarly, teachers expect learners to work independently and take responsibility for their learning; however, teachers themselves lack proper training and expertise in this area (Al Asmari, 2013). The lack of teachers' expertise in employing LA is reflected on the learners' lower motivation and reluctance to take responsibility for their own learning, an over-reliance on the teachers, and the spoon-feeding habit (Tamer, 2013).

Previous Research on MALL

Mobile-Assisted Language Learning (MALL) is concerned with the implementation of learning theories and approaches to deliver English language learning via mobile technology. According to Kukulska-Hulme (2016), MALL provides the opportunity to extend language learning outside the classroom settings; it delimits the time and space settings of traditional classrooms. MALL also promotes language skills, including reading skills, and helps support a student-centered approach. MALL can be more effective if learners are equipped with certain tools: support from teachers, and technologies and materials (Kukulska-Hulme, 2016) that may finally result in learners taking responsibility for perceiving a new language.

English language learning can be fostered by MALL. Language is considered an active and continuous process and cannot be restricted by time and place. EFL learners always need to interact and communicate in English for better learning outcomes. Mobile social networking could maintain an effective learning environment and create meaningful learning opportunities (Almekhlafy & Alzubi, 2016) that cater to students' needs and promote student-centeredness (Kim & Kwon, 2012) and collaborative learning outside the classroom (Al-rahmi, Othman, & Musa, 2014; Huang, Jeng, & Huang, 2009). Al-Shehri (2011) concluded that mobile Facebook would enhance EFL instruction methods to help them become more collaborative and enjoyable.

Mobile technology plays an important role in enhancing reading skills. Previous research shows that MALL affects vocabulary learning strategies, autonomy, and reading comprehension (Nosratinia,

Saveiy, & Zaker, 2014; Zarei & Gahremani, 2010). Technology improved autonomous learning through an English learning model that included short stories, newspaper and magazine articles, letters, and internet articles (Wang, 2010). The same author found that learners promoted English language competence, and they became more active and positive in English language learning (Wang, 2010). Learners can also express themselves in a virtually-enhanced, socio-cultural context for communicating and learning with handheld technology (Walters, 2012). Similarly, vocabulary self-selection strategies develop learners' autonomous learning; learners were motivated to learn on their own and helped encode new items effectively (Ogawa, Nation, Webb, Daulton, & Swenson, 2012).

The use of mobile technology improves LA in the EFL context. Almekhlafy and Alzubi (2016) found that students developed a sense of independency to choose what to interact on through WhatsApp in the Saudi EFL context. In India, Ramamurthy and Rao (2015) argued that the use of mobiles pushed EFL undergraduates towards autonomous learning. In Japan, Leis et al. (2015) found that learners showed a tendency toward being autonomous in the sense of investing their free time and taking charge of their own learning. Moreover, in a questionnaire on the potential of mobiles to support learning aspects, Djoub (2015) indicated that the limited use of mobiles is not likely to help learners improve autonomy since it does not go beyond the objective of enhancing their knowledge of the language.

Therefore, EFL learners must depend on other ways to manage and ensure that they receive enough language practice and support. Technology that does not have any borders in terms of time, place, open sources, and preferences may be capable of motivating, supporting, assisting, and even fostering learning (Selwyn, 2010).

The present paper discusses EFL readers' use of some mobile applications, namely WhatsApp and internet search engines outside the classroom to improve their autonomous learning skills in EFL reading. Readers are motivated through enabling them to take charge of and make decisions about their learning in terms of the choice of reading materials, time, and place for reading. The following table (Table1) shows the aspects of LA focused on in this paper.

Table 1
Conceptual Framework of Learner Autonomy in EFL Reading

MALL	Learner Autonomy
Internet search engines	Choice of reading materials
WhatsApp	Flexibility of time and place for reading

In Table 1, it is hypothesized that the learners'

use of internet search engines through their own mobiles would motivate them to expand their choice of reading materials. The use of WhatsApp would also help students practice reading regardless of time and place.

Method

This paper reports on a qualitative action research that was conducted with a reading class at the Preparatory Year of Najran University in Saudi Arabia. An available EFL reading class of male students was encouraged to use their mobiles for EFL reading. The treatment lasted for 14 weeks during which the data were collected via students' portfolios, a semi-structured interview and WhatsApp group.

Setting and Participants

The Preparatory Year (PY) at Najran University prepares new comers for selected university undergraduate programs. In so doing, it bridges the existing gaps between school outcomes and university needs. Some gaps are related to teaching and learning practices such as rote learning, teacher-centred learning, spoon-feeding habits. The Department of English Language Skills introduces six courses in the English language including Reading Skills.

Around eight hundred students are enrolled every year, and they are categorised into sections. In this paper, an available EFL reading class of 30 students enrolled in the PY was encouraged to use mobiles for learning purposes. The participants shared similar characteristics (e.g. age, gender, English educational background). All participants were males because of gender separation in the Saudi education system, and their age ranged between 18-20 years. English is considered a foreign language for them, with some basic English background in high school.

Procedure

The research employed the following methods and techniques. Students' portfolios were used to construct the baseline data. At a later stage, a WhatsApp group and semi-structured interviews with five participants were used. The participants were allowed and encouraged to use mobiles to search for and report on reading materials. In so doing, they were involved in taking responsibility for the decision making for reading materials. They could work outside the boundaries of the classroom in terms of selecting reading materials of their own choice where they can enjoy reading what they like and read regardless of time and place.

The research was conducted in three stages. In stage 1, three types of information were collected. First, information on the students' current employment of mobiles to assist in learning a new language as well as reading practices were surveyed as a starting point. In this stage, the participants were briefed about the nature of the experiment regarding what, where, when, and how to employ the selected mobile applications. Second, in the orientation session, the students were oriented about the potential uses of mobiles for learning purposes, and how they could be utilised. Third, the students received sample exercises on how to search the internet for more information. In other words, the students came to know how to get more information about reading by sharing, interaction, and getting teachers' feedback through the use of the WhatsApp group.

In stage 2, students took the experiment of using mobiles outside the classroom to enhance their sense of independent learning for 14 weeks. The program included tasks and assignments executed by learners outside the classroom. They were required to search the internet about topics of their choice and share them in the WhatsApp group for interaction with other peers and teachers' feedback.

In stage 3, after the interventional program, students' uses of mobiles in reading outside the classroom were collected through a semi-structured interview with special attention to the motivational aspects of reading materials, place, and time.

Materials

As a skill-based reading material, *Interaction 1 Reading* Diamond Edition, 2012 was deemed appropriate for this study. According to the course syllabus breakdown, some parts of the textbook were left as self-study materials. For assessment, external reading materials were expected to appear in the tests. As the participants would be motivated by the tests, they would search for the online external materials suggested by the textbook. The textbook also reflects real and actual utilisation in relation to everyday topics such as academic life, home, culture, etc. Each chapter includes activities and assignments that demand learners search the internet for relevant materials. According to the authors of the textbook, these activities aim to encourage autonomous reading among learners. In more detail, the teacher urged the participants to search the internet for extra texts based on the textbook and reflect on them in terms of summaries, discussions, and notes with their peers. Lake and Holster (2011) showed that teachers could monitor participants through summaries of reading texts, a task that examines reading speed, reading

motivation, and positive reading identity.

Students' Portfolios

Students' portfolios assist in reflecting the level of learner autonomy (Rao, 2006). Before the treatment, the participants were asked about features and applications they usually utilise, and their interaction with teachers and peers outside classroom settings. The idea was to find out the current use of mobiles in learning in order to construct the starting points for later analysis. More specifically, the participants responded to the following five questions to identify their views on using mobiles for learning EFL reading inside as well as outside the classroom.

- 1) Are you allowed to use mobiles for reading in English inside the classroom?
- 2) Do you use mobiles for learning reading outside the classroom? Please explain.
- 3) Do you use mobiles for learning English outside the classroom? If yes, Why?
- 4) Do you interact with the teacher and peers outside the classroom? Please explain.
- 5) Do you think that mobiles can be useful for reading in English? Please explain.

Mobile Applications

Nowadays, many applications and features can be installed on our mobile phones. Two mobile applications are utilised in this paper: Internet search engines and WhatsApp groups.

Internet search engines are applications used to search the internet for information on a certain topic. These applications were made available through mobiles to access the internet. The most popular engines are *Internet Explorer*, *Google Chrome*, and *Firefox*. Learners can utilise such applications to extend their reading choices in connection with the textbook. That is to say, they can read more about certain topics and do more tasks on their own in their free time wherever they wish.

WhatsApp is a well-known application with many features for external group work and interaction. It might be a challenge to monitor external tasks of a textbook outside the boundaries of a traditional classroom, but WhatsApp can help as a communication tool that enables teachers to monitor participants' self-study activities and reflections in a non-traditional classroom (Bouhnik & Deshen, 2014). Therefore, a WhatsApp group was used in this experiment for two purposes. It was used as an application that enhances LA by providing and reporting flexibility for time and place of reading. It was also used as a platform for the teacher-researchers to monitor the interactions among the participants in an EFL reading context.

A WhatsApp group was initiated and named with

the course name (Reading-1), section number, and the reading textbook's cover as the group profile picture. The participants joined the group through their mobile numbers. The teacher-researchers were nominated as the group supervisors.

The 30 participants were informed about the purpose and conditions of participation in the group: to be in contact with each other at any time and from any place with regard to the reading class; to share textbook exercises and external reading materials; and to increase reading practice using WhatsApp. It was also stipulated that all comments and postings be in English language. To motivate the participants to learn the textbook, a teacher-researcher posted a passage about the school life of Asian universities followed by a set of comprehension questions and requested that the participants answer them in the WhatsApp group.

For the data analysis, interactions on a topic for one week were considered one segment. WhatsApp shows the date and time of each posting. For time slots, a day is divided into four slots: morning, afternoon, evening, and night. As for locations, they are revealed through various expressions of adverbial phrases such as *in the bus*, *at the gym*, *in the cafeteria*. A coding system was also used. For example (WTW-8) stands for the teacher-researchers' participation, and (WSW-8) stands for a student's participation; where WTW stands for the abbreviated form of WhatsApp Teacher Week and WSW for WhatsApp Student Week.

Semi-structured Interview

Guided by the theoretical orientation on MALL and LA, a semi-structured interview was developed to elicit information from five of the participants on the motivational aspects of choice regarding reading materials, time, and place for reading. The interview included questions such as: Does using an internet search engine and WhatsApp give you other places than the classroom to improve your reading skills? Where? Do you find that these applications help you overcome preparing for the lesson at home? Did you find that the online reading materials helped you understand the relevant topics in your textbook? How? What were the challenges you faced when you participated in this reading processes outside the classroom?

The participants were interviewed individually and informally. Five to ten minute semi-structured interviews were conducted. The respondents' preferences of reading materials, time, and place to read were targeted in semi-structured interviews. A coding system was used; For example, (SSI-1) stands for Semi-Structured Interview and the sequence number stands for the interviewee.

Data Analysis

The data analysis showed that the participants were motivated to learn outside the classroom in terms of choosing their own reading materials, time, and place for reading.

Analysis of Students' Portfolios

The results of the data analysis of students' portfolios showed that prior to the treatment, the participants' use of mobiles either inside (Hazaea & Alzubi, 2016) or outside the classroom was at a lower level with regard to EFL reading and interaction with others for learning purposes. Students are not allowed to use mobiles inside the class; however, they sometimes use them secretly. They also use mobiles for learning reading outside the classroom in a very limited manner. They mostly use mobile dictionaries to get meanings of new words. They use their mobiles to call their friends and ask about class times, exams, homework. However, real interaction with their peers and teachers were reported negatively outside the classroom.

This research, as a part of a project on the utilisation of mobiles in learning EFL reading, is concerned with the potential of mobiles outside the classroom to enable students with more freedom in the choice of materials, time, and place of reading. These three motivational aspects could contribute to the learners' overall autonomous learning atmosphere in which they depend on themselves to practice reading outside the classroom.

Therefore, students' keenness and wish to learn a new language using the latest technology of mobiles geared this study. They have the belief that their own mobiles could be useful to encourage them to extend learning outside the border of the classroom, thus allowing them more roles of responsibility and control.

Analysis of Mobile Applications

Before posting in the WhatsApp group, the participants used their search engines to find information. This is manifested through the links copy/pasted from the search engine and shared in the WhatsApp group. Because of this technical interference between the two applications, the data analysis collected by both applications is considered one unit.

The data analysis revealed that although participation was low at the beginning, the participants' interactions increased as the intervention was going on. The participants read and shared external materials from the internet in line with those tasks assigned in the textbook. The materials were shared and reflected in the form of summaries, notes, links, tables, charts, maps, etc.

The data analysis of the WhatsApp group revealed

that the participants improved their learning time of EFL reading. The content analysis of the participants' posts and interactions proves the variance of time to learn EFL reading. At the week level, the highest level of interaction was noticed on the weekends and on exam days. At the day level, most of the interactions were conducted in the evenings. A good amount of interaction happened at noon and in the afternoons. Less interaction occurred in the mornings and most of it at that time was irrelevant to reading purposes. That is to say, the morning interaction was usually about issues such as enquiries about school and holidays. The least interaction was at nights and was often about urgent matters such as exams and the late submissions of assignments.

The participants have become able to search the internet for some relevant topics and share their reflection with their peers. The shared tasks include topics on community living, weather, favorite foods, history, culture, health, TV shows or movies, friendship poems or quotes, and sports. Participants were required to provide the links to the website addresses. The teacher motivated the participants to read external materials in connection with the textbook as evidenced in the following excerpt on community living:

Excerpt 1

'Hi All. Today, I want you to use your mobile search engines and find information about community living situations on campus. Here are some suggestions: surviving dorm life, residence hall living, campus housing, or student housing. Your reflection on the topic should be in form of notes to be shared and discussed with other classmates. Good luck.'
(WTW-1)

Some students were motivated to do the assignment and shared their notes with peers in the WhatsApp group as shown in the following excerpt.

Excerpt 2

'Hello teacher, hello students. I searched on residence hall living of University of Central Missouri and made these notes. Main idea: To maximize student success, first-year and second-year students are required to live on campus. Supporting details: making friends, getting used to college life, sleep later, cook less, and experience more.'
<https://www.ucmo.edu/housing/reshall/>
(WSW-1)

One more assignment was to do an internet search about weather in two parts of the world.

Excerpt 3

'Good Evening everybody. I would like you to compare weather in two countries and reflect

on which one seems more pleasant to you.'
(WTW-2)

One student provided the following comparisons in the form of a table:

Excerpt 4

*'Date: 5/10/2016
'Place: Najran & Abha
'Temperatures: Najran/ 38- Abha/ 25
Conditions: Najran/ sunny- Abha/ partially cloudy
'My favourite one is Najran coz I like it as making me feel more comfortable'
<http://sa.arabiaweather.com/> (WSW-2)*

The students were asked to access the internet to look for recipes of food they liked.

Excerpt 5

'I hope you're having a very nice weekend. Use your smartphones to look up a recipe including ingredients and say why you chose this food.'
(WTW-4)

A student replied and provided the following excerpt:

Excerpt 6

'Pls. follow link provided to see my favourite recipe. It is falafel. I like it coz it is yummy and available everywhere.'
<http://www.vegrecipesofindia.com/falafel-recipe-chickpea-falafel-recipe/> (WSW-4)

The participants were requested to get information about a different culture in the world.

Excerpt 7

'Dear students, I want you to write five things (food, sport, language, music, greetings, gestures, money, architecture, etc.) about a culture of your own choice from the internet and compare them with your culture.' (WTW-7)

The participants responded to the teacher's request and provided the following excerpt:

Excerpt 8

*'I checked the Japanese culture and got the next info. Religion/ Shinto, get married Christian and die Buddhist. Sports/ karate and kendo. Social conventions/ owing, taking off shoes. Food/ sushi, Osaka, Kobe beef. Drinks/ golden gai, green tea. (WSW-7)
'In my culture, we like football, we shake hands and kiss noses, kabsa is most famous. Our favourite drink is shambania and religion is Islam.'
<https://www.insidejapantours.com/japanese->*

culture/ (WSW-7)

Teacher asked the participants to find health advice on the internet on one aspect of health as evidenced in the following:

Excerpt 9

'Pls do an internet search for advice about any of health aspects. You can look for tips on healthy eating, running, walking, dieting, doing yoga, living a long life, quitting smoking, or anything else interests you. Then express your agreement or disagreement on three aspects.'(WTW-11)

A student in response to the teacher's request provided the following:

Excerpt 10

*'I fnd some tips on how to stop smoking again and want u to look at them. I a with tak up a new hobby, get a stress ball, and reduc your caffeine. I don't support clean home drink water a lot.'
<https://quitday.org/quit-smoking/quit-smoking-tips/> (WSW-11)*

Analysis of Semi-Structured Interviews

The semi-structured interviews showed that the participants utilised WhatsApp and internet search engines outside the classroom freely. They communicated in their free time and from different places.

To illustrate more, a student provided the following answers about using mobiles to learn independently:

'Using WhatsApp helped me to ask for feedback whenever I wish and at any place on any information with friends in order to improve my writing.' ... 'I use my mobile to access reading materials on the internet regardless time and place.' (SSI-1)

When asked the following question: When and where to use the mobile for learning? The interviewees (SSI-3.5) respectively answered,

*'When I am free I use mobile at home for learning. (SSI-3)
'I can use mobile at gym and on bus whenever I feel free to read more. (SSI-5)*

The interviews revealed that participants have learned how to acquire knowledge and search for information using mobiles, which has become as an outside of the classroom teacher; e.g. (SSI-2) explained,

*'Mobile has become a great help for me. (SSI-2),
'Mobile is like a portable teacher for me.'* (SSI-4)

WhatsApp and online access on mobiles has reinforced the participants' autonomy as they have started to read more newspapers, magazines, stories, etc. of their choice than before, for example, (SSI-1) said,

'Whenever I am free, I use my mobile to read some newspapers in English.' (SSI-1)

'I also read articles in English.' (SSI-5).

WhatsApp encouraged the participants to use mobiles under the teacher's direction and supervision, as they believe that mobiles have become valuable tools in learning. In more detail, (SSI-5) provided,

'I really think mobile is very helpful, but it should be used under the control of the teacher.' (SSI-5)

The data analysis also showed that mobile features were used outside the classroom to scan the reading exercises and tasks to be posted in the WhatsApp group (SSI-1, 2, 3, 5). The participants used mobile notes outside the classroom to write difficult words as indicated in the SSI-1 interviewee's answer:

'When I am outside I use mobile memos to copy down any important thing.' (SSI-1).

The analysis of the semi-structured interviews showed that the participants used their mobiles for reading texts and messages (SSI-1, 2, 3, 4, 5). It was also found that participants utilised WhatsApp to chat in English with native speakers and access reading sources (SSI-1, 3, 5). Participants felt free with their mobiles regarding place and time; they claimed that mobile applications like WhatsApp and internet search engines among other features could be of great help for the EFL learning process when doing homework, assignments, and tasks at any place such as the gym, home, and/ or on public transport (SSI-1, 2, 3, 4, 5).

The interviews revealed that the participants have developed a higher level of independence in terms of getting and searching for information using mobile features (SSI-1, 2, 3, 4, 5). WhatsApp and online access via search engines have reinforced the participants' LA in the EFL context as they have started reading external texts in newspapers, magazines, and stories (SSI-1, 4, 5).

It was also found that a participant faced some challenges trying to get the appropriate authentic reading materials as reported in the following excerpt:

'I find difficulty in choosing and selecting some reading texts from the internet.' (SSI-2)

Another participant was afraid that mobiles might distract his attention and consume his time, especially

during exams as shown in the following excerpt.

'Your friends send you a message and you will leave the study and start chat with them.' (SSI-3).

In general, the participants showed that they were interested in sharing their comments about assignments. It was also found that the participants usually shared their tasks in the form of attachments. More time and efforts were saved for the central delivery of the course outcomes and the learning atmosphere inside the classroom was no longer spoiled, i.e., students kept focused on the lesson objectives and aims rather asking about meanings of new vocabulary and grammar.

Findings and Discussion

It was found that the participants were highly motivated and more interacted. The study findings also showed that the participants increased a sense of independence in terms of choosing reading materials. The participants used WhatsApp and internet search engines to look up some materials of their choice and reflect on them in the form of summaries, note making, critical thinking, and mind mapping and then suggested online reading passages. Moreover, the participants extended their self-study reading outside the traditional classroom. These findings are reported in line with the research questions.

RQ1. What is the role of internet search engines in motivating students' choice of reading materials?

The participants have learned how to acquire knowledge and search for more information via mobiles, which acted as an outside classroom teacher. WhatsApp encouraged participants to use mobiles under the teacher's direction and supervision inside and outside the classroom as they believe that mobiles are becoming more valuable day by day.

These findings are in agreement with relevant findings in the Saudi context that call for the need to highlight student-centered learning approaches in connection with more independence, confidence, and freedom of material choice inside and outside classroom (Al-Jarf, 2012; Palfreyman, 2012; Thabit & Dehlawi, 2012). Similarly, Al-Shehri (2011) emphasised the role of social networks like Facebook in allowing students to improve and promote their own choice of materials.

The findings of this study have enhanced and facilitated the need to act autonomously and communicate with the world so as to practise the use

of the new language and make decisions about their language learning. Therefore, the use of mobiles in this study addressed the lack of practice in the findings of a number of studies by Al Asmari (2013), Farooq (2013), and Alrabai, (2014), which highlighted the learners' internal motivation to take charge of and make decisions about language learning, but the constraints of the lack of qualified teachers' training, the curriculum, and physical constraints have made the level of learner autonomy very low.

RQ2: What is the role of WhatsApp in motivating students to read regardless of time and place constraints?

The findings confirmed flexibility among participants in terms of reading anytime and anywhere. The study findings showed that the participants developed self-reading in terms of time and space. It was also found that they overcame the challenge of missing points if they were late or absent. They could request that their classmates share the missing parts such as solutions, exercises, assignments, or any further explanations in the WhatsApp group. Similarly, the participants utilised WhatsApp and online reading resources outside the classroom such as at home, at the gym, at the playground, and on the bus; to keep connected with their teacher and other classmates regarding doing assignments and homework, and explaining any difficult or confusing points.

The findings of the study totally correspond with what Alshammari, Parkes, and Adlington (2017) argued, that WhatsApp can encourage the modes of peer and autonomous learning in the EFL context, provided that they are accompanied by guidelines on the teachers' contact hours and free time in order to guarantee more chances of success and encourage more learner autonomy (LA). The findings of this study are in agreement with Lake and Holster (2011) in that autonomous learning conditions that can help students improve as self-regulated readers. The findings of the current study also support what Leis et al. (2015) reported, an increase in the awareness of the benefits that mobiles can have for EFL learning. Students extended their learning outside the classroom in their private time and became more autonomous. The findings are also in line with Joseph and Uther (2009) who strongly supported and confirmed the positive sides of technology (photos and videos) in promoting vocabulary skills autonomy. However, the study showed that autonomy can be best utilised outside the classroom as a supplementary and complementary part of what is missed or cannot be completed inside the classroom.

Unexpectedly, although the participants have improved a high level of LA motivation in terms of

choices of materials, time and space, it was found that some participants faced challenges when trying to get appropriate authentic reading materials, and others were worried that mobiles may distract their attention and consume their time, especially on exam days.

Conclusions and Implications

This paper reports findings on the effects of mobile internet search engines and WhatsApp on the mode of autonomous learning in the EFL reading context. It focuses on the pedagogical aspects of mobiles and making them available for non-traditional language learning settings. It can be concluded that learners have developed a sense of learner autonomy (LA) that is relevant to the choices of external reading materials and the use of mobile internet search engines and WhatsApp.

In addition, students are no longer confined to the classroom setting; rather they advantageously have extended their learning outside classroom. WhatsApp has formed an interactive and reflective platform that kept participants in touch both synchronously and asynchronously with their peers and teacher. They were able to share summaries, notes, diagrams, links, mind maps, extra readings, assignments, homework, and tasks.

With the use of mobiles, the participants extended their EFL learning in terms of reading materials and time and place of reading. Students utilised WhatsApp to reflect on the self-study parts with their classmates and teacher and to access reading materials of their choice. The participants were guided to establish a sense of self-learning and confidence. Now, they are no longer asking about word meanings, parts of speech, or pronunciation. Teachers have saved more time and effort during the traditional class for the central delivery of the course outcomes. In addition, the learning atmosphere inside classroom is no longer spoiled. The participants focused on the lesson objectives rather than asking about the meanings of new words and grammar. The results of this study could strengthen the utilisation of MALL inside and outside the classroom

This paper is not without limitations. As is the case in any study, the findings are limited only for the participants of the study where a homogeneous small size sample participated. In addition, the participants slightly violated the rules of using the WhatsApp group beyond the stipulated conditions of the group. Moreover, it was a challenge to keep the students' determination and motivation to sustain learning outside the classroom.

This study recommends that the teaching load

should be reconsidered by the higher authorities to include not only on-campus hours but also outside university campus hours. Further research is needed to test the role of mobile features and applications in generating learners' own tasks and writing skills.

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