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UNIVERSITY OF SOUTHAMPTON

HUMANITIES GRADUATE SCHOOL

Modern Languages

**Mobile Microblogging as a Tool to Promote Learners' Engagement with L2
Targeted Vocabulary Study**

by

Suhail Abdullah Shafea

Thesis for the degree of Doctor of Philosophy

September, 2017

UNIVERSITY OF SOUTHAMPTON

ABSTRACT

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MOBILE MICROBLOGGING AS A TOOL TO PROMOTE LEARNERS' ENGAGEMENT WITH L2 TARGETED VOCABULARY STUDY

Suhail Abdullah Shafea

Promoting EFL learners' engagement with their targeted aspects of language is vital for successful language learning and acquisition. There has been substantial research undertaken on the role of social networking applications and their various features on promoting EFL learners' engagement. Previous research has also indicated potential association between increased engagement and knowledge gains and development. The current research seeks to understand and explain the role of mobile microblogging in engaging EFL learners with their L2 targeted vocabulary. It primarily focuses on the use of Twitter as a mobile microblogging tool combined with a designed vocabulary learning task and its impact on learners' engagement with vocabulary and knowledge development. This study is based on the premise that engagement with vocabulary via the adoption of mobile microblogging tool and task leads to better vocabulary learning and acquisition.

This research employed both quantitative and qualitative approaches. Data was gathered using interviews, focus groups, weekly reports, questionnaires, the Vocabulary Knowledge Scale (VKS) and Twitter activity measurement. The participants showed positive attitudes towards the adoption of the mobile microblogging tool and task to approach their L2 targeted vocabulary. The findings show that the adoption of the mobile microblogging tool and task offered a great deal to the participants, facilitated approaching vocabulary learning, impacted their engagement and vocabulary gains and knowledge development positively. The study indicates that there is a positive relationship between EFL learners' increased engagement with vocabulary and their gain and knowledge development. The study also identified a number of challenges the participants encountered during their use of the mobile microblogging. The present research confirms previous research findings and contributes additional evidence that demonstrates how learners' connectedness is a critical factor in facilitating learning and supporting cognitive development.

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DECLARATION OF AUTHORSHIP

I, Suhail Abdullah Shafea declare that this thesis and the work presented in it are my own and has been generated by me as the result of my own original research.

Mobile Microblogging as a Tool to Promote Learners' Engagement with L2 Targeted
Vocabulary Study

I confirm that:

1. This work was done wholly or mainly while in candidature for a research degree at this University;
2. Where any part of this thesis has previously been submitted for a degree or any other qualification at this University or any other institution, this has been clearly stated;
3. Where I have consulted the published work of others, this is always clearly attributed;
4. Where I have quoted from the work of others, the source is always given. With the exception of such quotations, this thesis is entirely my own work;
5. I have acknowledged all main sources of help;
6. Where the thesis is based on work done by myself jointly with others, I have made clear exactly what was done by others and what I have contributed myself;
7. None of this work has been published before submission.

Signed:

Date:

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Chapter 1: Introduction

1.1 Introduction

Generally, the current research is concerned with facilitating and enhancing EFL learning and acquisition surpassing the extensive focus earlier studies have put on methods. Facilitating second and foreign language learning and acquisition is a key issue in applied linguistics. A considerable amount of literature has been published on theories, methods, factors, tools, strategies and resources concerned with aiding the processes of language learning and acquisition (Abdous et al., 2009; Begum, 2011; Ellis, 1997; Hedge, 2000; Hulstijn, 2001; Kenny et al., 2009; Li, 2011; Mitchell et al., 2013; Nation, 2001; Schmitt, 2008; Smith, 2004; Wu, 2016). The findings and recommendations of these studies have significant implications for the understanding of how learning and acquisition can be better facilitated and enhanced.

Recently, a considerable literature has grown up around the theme of promoting learners' involvement and engagement and their association with knowledge gains and development (Coates, 2006; Coates, 2007; Hulstijn, 2001; Laufer & Hulstijn, 2001; Miller & Butler, 2011; Niu & Helms-Park, 2014; Sazant, 2014; Schmitt, 2010b). Numerous studies have also examined the impact of using different e-tools in general, and social networking applications in particular, to increase learners' involvement and engagement (e.g. Akbari et al., 2016; Junco et al., 2013; Junco et al., 2011; Veletsianos & Navarrete, 2012; Welch & Bonnan-White, 2012; Woo et al., 2011; Yu et al., 2010). This study aims to contribute to this growing area of research by exploring the effect of integrating Twitter as a mobile microblogging tool on EFL learners' engagement with vocabulary and thus on their knowledge gains and development.

1.2 Background, context and rationale of the study

This research is mainly concerned with the use of Twitter as a mobile microblogging tool combined with a designed vocabulary learning task to promote the participants' involvement and engagement with vocabulary. The focus on vocabulary in this research is inspired by two main issues. First, it is an important component of language, and plays a key role in its acquisition (Schmitt, 2010b). Recent research has pointed out that vocabulary knowledge is evidently associated with academic success in general (Zwiers, 2014) and successful language learning in particular (August et al., 2006; Becker, 1977; Nation, 2001). It has been argued that different aspects of language knowledge and skills, such as L2 grammatical knowledge, are reliant on vocabulary knowledge (Ellis, 1997; Milton et al., 2010; Stæhr, 2008). Second, the struggle many language learners have with vocabulary learning. According to Meara (1980),

many language learners appear to struggle with their vocabulary learning as they do not appear to spend enough effort to overcome their difficulty with learning new vocabulary. Most L2 teachers are aware of this struggle and they feel that learners need to spend some time dealing with their vocabulary outside the classroom, as dealing with every new word in class is not possible due to limited classroom time (Baykal & Daventry, 2000).

Previous literature has suggested a number of factors causing this struggle. First, many learners tend to be teacher-centred, expecting their teacher(s) to explain to them everything in their textbooks (Almarwani, 2011; Alqahtani, 2011; Grami, 2012). Second, EFL learners need more support and guidance that might assist them to overcome their difficulty with L2 vocabulary learning more independently (Akin & Seferoğlu, 2004). Third, limited classroom time (Baykal & Daventry, 2000). Fourth, lack of enough exposure to vocabulary beyond the classroom (Lu 2008; Groot 2000). Fifth, lack of use and practice (Park & Son, 2009). Sixth, the need for a social learning environment that connects them with the broader world for the purpose of gaining and/or expanding knowledge (Facer & Sandford, 2010).

In agreement with these, the researcher, who taught English for five years to first year university level students in Saudi Arabia, had also observed that most Saudi learners seemed to struggle with vocabulary learning for similar reasons. Empirical research that measured first year university Saudi students' vocabulary size found their average lexical knowledge to be as low as 500 to 800 word families (e.g. Al-Nujaidi 2003; Al-Homoud 2003; Alhumood 2007; Al-Bogami 1995). These could reflect how Saudi learners struggle with vocabulary learning and how important it is to explore ways that might enhance vocabulary gains and knowledge development.

The research is also concerned with the use of Twitter, which is chosen in this research as an example of microblogging tools. Twitter is chosen for a number of reasons. First, it is widespread and used by university students (Schroeder et al., 2010). Second, Twitter can be oriented towards educational and learning purposes (Ellison et al. 2007). Third, Twitter has a distinctive feature of sending and receiving 'bite-sized' messages (maximum 140 characters in each Tweet) (Carter 2011). Fourth, Twitter has glorified the concept of reciprocity and encouraged interaction between the users in a way that is impossible in other social networks (Carter, 2011; Ebner et al., 2010). Finally and most importantly, Twitter is widespread in Saudi Arabia in general (The Social Clinic Editorial Team, 2013a; The Social Clinic Editorial Team, 2013b; The Social Clinic Editorial Team, 2013c) and at Taibah University in particular, where this research is undertaken. In other words, Twitter is used as a medium of communication within Taibah University as observed by the researcher.

Because Twitter is an online social microblogging tool, learners have to use connected devices, such as smartphones, tablets, laptops or personal computers. Accordingly, the inclusion of connected devices is inevitable and thus the access and use of Twitter might be influenced. It is presumed in the current research that the majority of the participants will use their smartphones or tablets to access Twitter. This presumption is based on three factors. First, recent statistics provided by OurMobilePlanet (2014) showed that a range of varied connected devices are used in Saudi Arabia. However, smartphones are used by around 75% of people in Saudi Arabia to access social networking applications on a daily basis (Figure 1). Twitter, in particular, is accessed via smartphones by nearly 60% of people in the country (Figure 1). Second, a number of previous studies showed that most of the Saudi university students own mobile devices and have positive attitudes towards using them for learning purposes (Altameem, 2011; Chanchary & Islam, 2011; Khrisat & Mahmoud, 2013; Nassuora, 2012; Seliaman & Al-Turki, 2012). Third, it has been observed by the researcher that smartphones are widespread among students in Saudi Arabia, the research context.

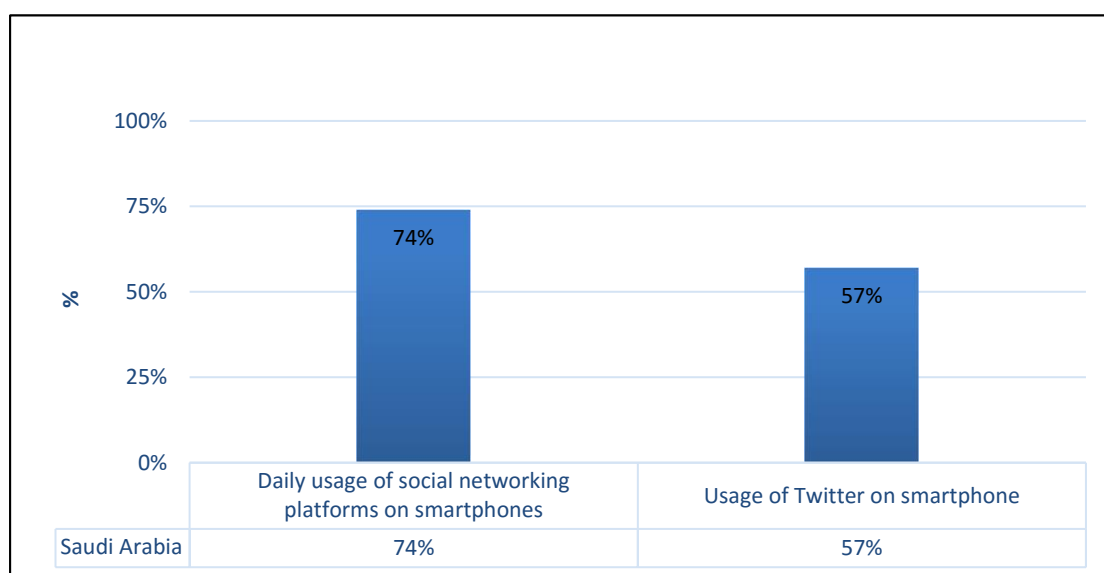


Figure 2: Usage of social networking platforms and Twitter on smartphones

Accordingly, this research speculates that the participants will simultaneously use their smartphones and Twitter during the research intervention. The use of smartphones brings all the features and educational affordances of mobile learning and combine them with those of microblogging. Consequently, this research has to consider both mobile learning and using microblogging to facilitate vocabulary learning as well as to engage the participants with it. The significance of considering the educational affordances, features, as well as reviewing previous literature related to both mobile learning and microblogging, is their interrelatedness. The current study will refer to this concurrent use of mobile devices and Twitter as ‘mobile microblogging’.

Twitter as a mobile microblogging tool should be integrated into the participants' course in educationally relevant ways (Junco et al., 2013). Hence, a vocabulary learning task was designed in accordance with the Involvement Load Hypothesis (Laufer & Hulstijn, 2001) to involve and engage the participants with their targeted words (see 4.7.3.2 for more details). This designed task is referred to in this research as the mobile microblogging task. While the task is presumed to be effective due to the presence of the three components of the Involvement Load Hypothesis (Hill & Laufer, 2003), there are a number of additional reasons that explain how the integration of educational web 2.0 technology can promote learners' engagement. These include: (1) facilitating and increasing the amount of social interaction (Carter, 2011; O'Reilly, 2005), (2) connecting the students to the broader world, allowing for more authentic exposure to language (Al-Shehri, 2011; Levy & Stockwell, 2006), (3) involving the students in creating accessible learning materials (Nikolova, 2002), (4) inspiring the students to take more responsibility for their learning (Cox et al., 2003), and (5) increasing students' attention to their learning (Altiner, 2011; Ebner et al., 2010).

Finally, it is hypothesised that encouraging the students to use the adopted mobile microblogging tool and task to involve and engage with their targeted vocabulary will impact positively on their vocabulary gains and knowledge development. This hypothesis is based on two factors. First, there is evidence that the adoption of educational technology could afford ways to engage learners with their targeted learning (e.g. Franklin & Peng, 2008; Jones et al., 2009; Levy & Kennedy, 2005; Lu, 2008; Martin & Ertzberger, 2013; Palalas, 2012; Rogers et al., 2009; Stockwell, 2007; Stockwell, 2010). Second, previous research suggests that the more engaged L2 learners are with their targeted vocabulary the more they learn and retain (Craik & Lockhart, 1972; Fredricks et al., 2004; Hulstijn & Laufer, 2001; Kuh, 2009; Miller & Butler, 2011; Nation, 2001; Schmitt, 2008; Schmitt, 2010a; Webb, 2008). This research, therefore, is set out to assess the effect of using the mobile microblogging tool and task on the participants' involvement and engagement with vocabulary, and thus on their knowledge gains and development. It aims to advance the understanding of how using a mobile microblogging tool could facilitate learning, complement existing learning practices, promote learners' engagement and impact on their vocabulary knowledge gains and development.

1.3 The research questions and design

The present research is a mixed-methods research. It aims to explore how using Twitter as mobile microblogging can facilitate approaching L2 targeted words as well as promote the participants' engagement with vocabulary. It also seeks to examine the influence of the involvement load of the designed task on vocabulary gains and knowledge development. There

are three key issues in the present research: (1) the participants' perceptions towards the adoption of the mobile microblogging tool and task to approach vocabulary learning, (2) how it impacts on their involvement and engagement, and thus (3) on their gains and knowledge development. Accordingly, the current research seeks to answer three research questions.

The first one is concerned with: (a) the participants' attitudes towards vocabulary learning and the use of the mobile microblogging tool and task to approach targeted vocabulary, (b) the ways and affordances the adopted tool and task offer to facilitate the learning process, (c) challenges that might be associated with using the adopted tool and task. The second research question is concerned with examining how the adopted tool and task helps to promote learners' engagement with their L2 targeted vocabulary. The last question focuses on the impact of using the adopted tool and task to engage with vocabulary on knowledge gains and development. Bringing the findings related to these three questions together can contribute to a better understanding of how the adopted mobile microblogging tool and task could assist the participants to approach and engage with their L2 targeted vocabulary and affect their knowledge gains and development. This research seeks to address the following questions:

1. How do EFL learners perceive the adoption of mobile microblogging to approach vocabulary learning?
 - a. What are their attitudes towards vocabulary learning before and after the research intervention?
 - b. What are their attitudes towards utilising a mobile microblogging tool to approach vocabulary learning before and after the research intervention?
 - c. How does mobile microblogging help EFL learners to approach vocabulary learning?
 - d. What challenges might be encountered?
2. How does the adoption of mobile microblogging increase EFL learners' engagement with vocabulary?
3. How does the adoption of mobile microblogging impact EFL learners' knowledge gains and development?
 - a. How do they perceive the impact of the adopted tool on their vocabulary gains and knowledge development?
 - b. Are the words that are engaged with learned better?
 - c. How does the involvement load of the task affect vocabulary development?

To answer these research questions, six main research instruments were employed. These are:

1. Interviews: to gain insightful information about the participants' attitudes towards using the mobile microblogging tool and task to approach vocabulary learning, the perceived

educational affordances, and how the use of tool and task helped to promote the participants' engagement with vocabulary.

2. Focus groups: to gain more in-depth information through approaching a larger number of participants as well as adding more perspective which cannot be achieved otherwise unless participants discuss their views concurrently.
3. Weekly reports: to track the students' use of the mobile microblogging tool and task as well as to allow the students to reflect on their experience with using Twitter on mobile devices for vocabulary learning and engagement.
4. Questionnaires: to measure the participants' attitudes towards vocabulary learning, learning vocabulary by using Twitter and learning vocabulary through mobile devices; there were pre- and post-intervention questionnaires.
5. The Vocabulary Knowledge Scale (VKS): to check and track the participants' knowledge about the targeted vocabulary; there were pre- and post-intervention tests.
6. Twitter activity measurement: to track, observe, and measure the amount of the participants' involvement and engagement with their targeted words during their use of the mobile microblogging tool and task.

1.4 The structure of the thesis

The overall structure of the thesis takes the form of seven chapters. Following the current chapter, chapter 2 is devoted to introducing the educational technology related to this research. It is subdivided into two main sections, mobile learning (m-learning), and microblogging. The main issues covered in the first section are associated with m-learning in terms of defining it, showing its relation to and difference from other types of learning and identifying the phase of m-learning in which this research is positioned. Additionally, the section provides a review of a number of related studies. The main issues covered in the second section are concerned with social microblogging and will show that Twitter is chosen as an example of microblogging tools to be integrated into language class and how it could afford ways to engage and facilitate learning as informed by existing literature. The chapter begins by introducing the concept of mobile learning, which generally refers to the use of mobile devices for learning purposes. Then, it moves to address a number of related issues, including mobile learning as a form of e-learning, phases of mobile learning and a review of relevant literature on the use of mobile learning. The chapter then moves forward to introduce the concept of microblogging, web 2.0 technology and social networking, followed by a review of a number of relevant studies. After that, the chapter introduces Twitter and then presents a review of the educational affordances and previous research.

Chapter 3 aims to lay out the theoretical background of the research as well as present a review of previous relevant literature. It focuses on vocabulary learning as the chosen aspect of language to be focused on in this research. This is followed by discussing the effect of task involvement load, the notion of engagement with vocabulary and the Sociocultural Theory on vocabulary knowledge development. The chapter begins with discussing the importance of vocabulary learning in language acquisition through highlighting the relationships between vocabulary knowledge and other aspects of language learning. Then, it turns to introduce the approaches to vocabulary learning discussing their effectiveness, advantages and limitations. After that, the chapter talks about the aspects of vocabulary knowledge stressing on the meaning-form relationship as the foremost aspect of vocabulary knowledge. In relation to the aspects of vocabulary knowledge, the levels of mastery and different formats of measuring word knowledge will be presented. These will be followed by introducing the Involvement Load Hypothesis and the notion of engagement with vocabulary and how they both contribute to designing effective tasks which lead to better vocabulary learning and knowledge development. The chapter ends with presenting the Sociocultural Theory and discusses the application of its key principles in this research.

Chapter 4 discusses the specific methods by which the research and analyses were conducted. It describes the research context, design, instrumentation, intervention and data analysis plan. The chapter begins by displaying the research questions that are sought to be answered. Then, a brief overview of the research context, focusing on the wide spread of the related educational technology and institutional support for technology implementation. These will be followed by discussing the selection of the participants and the rationale behind this. Details of and justifications for selecting and utilising the research instruments will be explained. This includes what type of data they could provide and how they might contribute to answer the research questions. Finally, the chapter describes the research procedures, including fieldwork trip, ethics and risks, steps of developing and implementing the research intervention, and the plan for data analysis.

Chapter 5 presents the main findings of the research. The findings are subdivided into two main sections. First, the findings of qualitative analyses. It displays the results of the interviews, focus groups, weekly reports, and responses to the questionnaires' open-ended items. The section, however, begins by describing how data was prepared and checked before starting the process of the analysis, then moves on to detail the procedures of qualitative analysis, such as coding and identifying themes of the data. Second, the findings of quantitative analyses. This section presents the results of the pre-post questionnaires, VKS, and Twitter activity measurement. It also describes how each instrument was analysed and what was found. While it generally complements the first section, it adds further data that contribute and help in answering the

research questions. Finally, the chapter triangulates the findings from both qualitative and quantitative data to gain a comprehensive account of these findings as well as prepare them to be discussed in the following chapter.

Chapter 6 interprets the research findings and then relates them to the theoretical discussion and previous studies presented in the literature review chapters. It discusses the findings related to the research questions in a chronological order, starting from the first to the last question. That is, the chapter first answers the first research question then moves on to answer the next one. The chapter discusses the role of the adopted mobile microblogging on facilitating as well as engaging the research participants with their targeted vocabulary. It then discusses in detail how the participants were involved and engaged with their targeted vocabulary during the research intervention. Finally, it discusses the impact of the involvement and engagement with vocabulary on the participants' gains and knowledge development.

Chapter 7 concludes this research. It begins by providing a brief summary of the principal findings of the current research. Then, it makes an overall evaluation of the findings and presents a number of recommendations. Finally, it highlights the issues this research focuses on and accordingly, offers suggestions for future research.

Chapter 2: Mobile microblogging

2.1 Introduction

This chapter contextualises the research by providing background information on e-learning, mobile learning and microblogging. This would help in situating the current research in the broader area of e-learning through reviewing previous relevant studies and exploring how implementing an educational technology can assist in creating new social learning environments and consequently facilitate learning. The chapter begins by providing a brief overview of e-learning. Then, it presents the concepts of mobile learning and microblogging. The inevitable interrelatedness between mobile learning, with all its educational affordances and features, and microblogging in this research is the reason behind covering both areas in the literature review below. More specifically, the participants in the current research are speculated to spontaneously use their mobile devices to microblog and engage with their targeted words in the Twittersphere. Additionally, when approaching their targeted vocabulary, the participants will simultaneously use their mobile learning and the adopted microblogging tool. Then, the chapter moves on to discuss mobile microblogging in the context of this research.

2.2 E-learning

The use of e-learning in assisting language learning and teaching has been an important area in applied linguistics research. E-learning has been an ever-changing field that copes with existing as well as evolving technologies (Boulay et al., 2008). It is alternatively known as online learning, technology-enhanced learning, distance learning and web learning (Chang & Hsiao, 2010). E-learning does not refer solely to using educational technology to facilitate learning but it can refer to different concepts of learning, such as autonomous and student-centred learning that take place online regardless of time, location and space (Chang & Hsiao, 2010)

A considerable amount of research has been published during the last few decades concerning different issues on e-learning (e.g. Al-Jarf, 2005; Al-Jarf, 2007; Frigaard, 2002; Schmidt & Brown, 2004; Taylor & Gitsaki, 2004; Warschauer, 1995; Warschauer, 1997; Warschauer et al., 2000). It shows that e-learning can be implemented in different courses at almost all levels of formal education (Hsu & Lee, 2011). Also, “many organizations and institutions are using e-learning because it can be as effective as traditional training at a lower cost” (Ghirardini, 2011, p. 8). Moreover, a variety of technological tools can be integrated into education, such as computer and mobile devices (Altiner, 2011; Gikas & Grant, 2013) and web 2.0 technology

(e.g. social networking tools) (Al-Shehri, 2011; Ebner et al., 2010; Junco et al., 2011). Additionally, the previous research demonstrates how integrating and using e-learning in educationally relevant ways can afford ways to facilitate and engage learners with their learning (Franklin & Peng, 2008; Junco et al., 2013; Martin & Ertzberger, 2013) and bridge the gap between formal and informal learning as well as inside-and-outside-class learning (Anderson & Dron, 2014). Furthermore, it suggests that the use of e-learning can affect the learning outcomes positively (Akbari et al., 2016).

Boulay et al., (2008) claim that existing research on e-learning focuses on three general aspects; these are (1) the integrated technology, (2) the effect of e-learning on learners and learning practices and (3) knowledge gain and learning outcomes. One or more of these three aspects can be included in one study. With regard to the first aspect, researchers are concerned with issues related to the integrated technology, such as devices, usability and/or accessibility (e.g. Kukulska-Hulme, 2007). With regard to the second aspect, researchers consider the pedagogical issues associated with the use of technology, such as promoting autonomy (Benson & Voller, 2014), facilitating group learning (Llic, 2013) and increasing engagement (Junco et al., 2011). With regard to the third aspect, researchers look at how learners' outcomes can be impacted by the use of technology (Junco et al., 2013). This research considers all these three aspects, but focuses more on the pedagogical issues of implementing mobile devices and Twitter as a mobile microblogging tool. In particular, it explores how using mobile devices and microblogging could help the learners to approach their targeted vocabulary learning, connect with each other and with the wider world, and have a better engagement with the words they need to learn.

Finally, it is important to clarify what e-learning means and how it is used in this thesis. This is essential due to the fact that a generally accepted definition of e-learning is lacking (Moore et al., 2011). For example, Clark and Mayer (2011, p.7) define e-learning as a form of "instruction delivered on a digital device such as a computer or mobile device that is intended to support learning". Naidu (2006, p.1), as another example, suggests that "e-learning would incorporate all educational activities that are carried out by individuals or groups working online or offline, and synchronously or asynchronously via networked or standalone computers and other electronic devices". It can be argued that the first definition seems to be inadequate since it limits e-learning to being a medium of online instruction. On the other hand, the second definition appears to be more comprehensive as it has been broadened to include the use of all connected/disconnected electronic devices for individual/collective learning activities. Accordingly, e-learning in this research refers to the use of connected mobile devices and Twitter as a mobile microblogging tool in pedagogically relevant ways to facilitate and enhance vocabulary learning.

2.3 Mobile learning (m-learning)

M-learning is viewed in this research as a form of e-learning. It refers to using mobile devices for pedagogical purposes (Chen et al., 2012). It can be distinguished from other types of learning in that it allows learners to access learning and information resources when they want regardless of time, location and space (Ally, 2009; Kukulska-Hulme & Traxler, 2005; Quinn, 2000). The concept of m-learning is generally used to describe any learning that occurs on the move (Ally, 2009; Gregson & Jordaan, 2009; Kenny et al., 2009; Kukulska-Hulme & Pettit, 2009). Accordingly, it is different from traditional face-to-face classrooms, where students and teachers have to be in one place, in that learning can occur while students and teachers are in different locations.

It is necessary here to clarify what is exactly meant by m-learning. One of the first and important definitions of m-learning was provided by Quinn (2000) as “the intersection of mobile computing and e-Learning: accessible resources wherever you are, strong search capabilities, rich interaction, powerful support for effective learning, and performance-based assessment. E-learning independent of location in time or space”. This definition views m-learning as a form of e-learning that can occur anytime, anywhere. Traxler (2005, p. 262) defines m-learning as “any educational provision where the sole or dominant technologies are handheld or palmtop devices”. It can be noticed that this definition refers to m-learning as the learning occurring via mobile devices. Kukulska-Hulme and Shield (2008, p. 273) define m-learning as “learning mediated via handheld devices and potentially available anytime, anywhere. Such learning may be formal or informal”. This definition highlights three elements; (1) using mobile devices, (2) any time anywhere, and (3) for formal and informal learning. Similarly, Laouris and Eteokleous (2005) argue that the term m-learning refers to two main parts, learning and mobile. In their view, learning refers to the process of obtaining new knowledge and mobile refers to the ability to move or to be moved. The two terms together refer to learning that can be achieved on the move. Bringing together all these definitions, it is clear that they describe m-learning as learning that occurs anytime, anywhere via mobile devices. However, these definitions still seem to be broad and techno-centric.

A more comprehensive definition of m-learning has been provided by Palalas (2012, pp.3–4) who viewed m-learning as “knowledge construction, skill development and performance support, in which actors engage across various locations, times, situations and contexts through the mediation of mobile devices”. This definition captures a number of important issues. Firstly, it takes into account what learners will gain and learn, not only how, where and when they can learn. Secondly, it clearly links learners’ engagement with learning activities,

including connectedness with others in different contexts and situations. This definition is going to be used in this research to refer to the concept of m-learning.

Although m-learning generally refers to any learning that occurs using handheld learning materials, such as books, e-dictionaries, CD/DVD players and audio-cassettes, it “usually concentrates on the most recent technologies” (Kukulska-Hulme & Shield 2008, p. 273).

Almost every paper that has been written recently on m-learning refers to m-learning as using electronic mobile devices for learning purposes (Aamri & Suleiman, 2011; Al-Shehri, 2011; Almarwani, 2011; Chen et al., 2012; Pachler et al., 2010; Palalas, 2012; Shield & Kukulska-Hulme, 2008; Song & Fox, 2008; Traxler, 2005). In line with these studies, this research only focuses on the use of connected mobile devices, namely smartphones, phablets and tablets during the research intervention.

2.3.1 Phases of m-learning

According to Cook (2009), there are three phases of m-learning (Cook, 2009). In the first phase, any learning that occurred because of using mobile devices used to be described as m-learning. More specifically, the focus was on using mobile devices to display learning materials. In the second phase, this view had shifted to consider m-learning as any learning that occurred beyond the walls of a traditional classroom. Finally, due to the incessant development of mobile devices and technologies, the view of m-learning has changed to be associated with learners’ mobility and connectivity rather than using mobile devices to learn (Cook, 2009; Hlodan, 2010; Miangah & Nezarat, 2012; Valarmathi, 2011; Woodill, 2011). Each phase will be further elaborated in the following paragraphs.

Cook (2009) claims that the use of different types of mobile devices, such as PDAs, mobile phones, laptops and tablets, spread widely during the first phase. The main purposes of using these devices were to substitute using computer labs and to display e-learning materials inside the classroom, for instance, reading e-books and/or listening to audio files. Neither mobility nor connectivity of the learners were focused on in this phase. In comparison to computer labs, mobile devices were cheaper, more fixable, smaller, lighter and unplugged devices that could be used in the classroom without the need for computer labs (Cook, 2009; Godwin-Jones, 2008; Perry, 2003; Rogers et al., 2009; Stockwell, 2007; Woodill, 2011). However, a number of disadvantages emerged and consequently, limited the benefit of m-learning at the first phase. These include difficulty in reading from small screens, short-life batteries, limited capacity of the devices, and lack of technical support (Georgiev et al., 2004; Perry, 2003; Pettit & Kukulska-Hulme, 2007).

In the second phase, the focus on m-learning has shifted to be on facilitating learning outside the classroom. This includes using mobile devices in different situations, such as in fieldtrips (Altameem, 2011; Sharples et al., 2001), moving around to observe learning materials, such as samples or paintings (Martin & Ertzberger, 2013), and communication with students and/or their parents (Jones et al., 2009; Richardson & Lenarcic, 2009).

In the last phase, the focus has shifted to be on the mobility and connectivity of the learner. Woodill (2011, p.12) points out that “the critical factor is that a learner can be physically mobile while at the same time remaining connected to non-proximate sources of information, instruction, and data. This is in sharp contrast to the classroom model of learning, where the learner, for the most part, is immobilized behind a desk”. In other words, learning can take place anywhere, anytime and when needed or wanted through using connected mobile devices (Hlodan, 2010; Stockwell, 2007). More specifically, learning can take place inside the classroom, outside the classroom, in a bus, at home, individually, with peers, via offline and/or online applications and/or internet browser.

The point of considering connectivity fundamental in the third phase of m-learning can be attributed to the fact that ‘things’, such as real world objects, people, and electronic data, in this current digital era have a tendency to be network connected, the Internet of Things (IoT) (Yang, 2014). In the third phase, mobile learners with connected mobile devices are able to access online resources and stay connected with their teachers and classmates. This research can be categorised to be under the umbrella of this last (third) phase of m-learning as its emphasis is on learners’ mobility and connectivity.

2.3.2 Research on m-learning

A large volume of recently published studies describes m-learning as the future of learning (e.g. Dahaman et al., 2012; Paliwal & Sharma, 2009; Stead, 2005). Godwin-Jones (2011) states that the recent developments of mobile technologies have influenced different aspects of our life, including language teaching and learning. Therefore, a considerable amount of the current literature on technology-assisted language learning pays particular attention to m-learning (e.g. Kukulska-Hulme & Shield 2007; Ally 2009; Alavinia & Qoitassi 2013; Khrisat & Mahmoud 2013; Chinnery 2006; Kukulska-Hulme 2009; Levy & Kennedy 2005; Pettit & Kukulska-Hulme 2007; Stockwell 2008; Stockwell 2010; Kukulska-Hulme & Shield 2008). According to Stockwell (2010), such a growing number of research studies on m-learning indicates that implementing m-learning in education is becoming inevitable.

There is a consensus among researchers in the field of language teaching and learning that most students favour m-learning (e.g. Ally, 2009; Hussein & Nassuora, 2011; Kondo et al., 2012;

Levy & Kennedy, 2005; Malamed, 2012; Nassuora, 2012; Richardson & Lenarcic, 2009; Seliaman & Al-Turki, 2012; Stead, 2005; Woodill, 2011). A considerable number of empirical studies on m-learning have been conducted in many countries, such as in Saudi Arabia (Al-Shehri, 2011), Japan (Kondo et al., 2012; Stockwell, 2010), Australia (Levy & Kennedy, 2005), Turkey (Başoğlu & Akdemir, 2010), Iran (Alavinia & Qoitassi, 2013) and Bangladesh (Begum, 2011). Also, with learners of different levels and majors, including instructional design (Martin & Ertzberger, 2013), educational sciences (Khwaileh & Al-Jarrah, 2010) and second language learning (Khrisat & Mahmoud, 2013).

Bryan (2004, p.31) suggests that “since this technology is mobile, students turn ‘nomad’, carrying conversations and thinking across campus spaces, as always, but now with the ability to Google a professor’s term, upload a comment to a class board, and check for updates to today’s third assignment—all while striding across the quad”. This demonstrates how technology has offered new solutions and created new learning opportunities. That is, learners can instantly use their mobile devices to learn while on the move and that there is no need to postpone learning until they reach personal computers or the university library to search for information.

Numerous studies have discussed the advantages and disadvantages of m-learning (e.g. Başoğlu & Akdemir, 2010; Viberg & Grönlund, 2012; Stead, 2005; Miangah and Nezarat, 2012; Cui & Wang, 2008; Chen et al., 2012; Khrisat & Mahmoud, 2013). With regard to the advantages, *portability* and *connectivity* have been emphasised as the two main advantages of m-learning by a number of researchers (Miangah & Nezarat, 2012; Valarmathi, 2011).

However, other researchers claim that portability and connectivity are just two, amongst others, of the strengths of m-learning. Klopfer et al. (2002) have mentioned five important advantages of m-learning: (1) portability, (2) social interactivity, (3) context sensitivity, (4) connectivity, (5) individuality. Moreover, Attewell (2005) claims that m-learning can reach and take place in locations and situations that other types of learning cannot, which could give advantages to this type of learning over other types of technology-enhanced learning, such as e-learning.

On the other hand, there are some challenges that face m-learning. Georgiev et al. (2004) have mentioned two problems that learners encounter when using their mobile devices for learning. These are short battery life and limited device storage capacity. Also, it was found that learners might have some technical issues that are difficult to deal with which might make their experience with mobile devices negative (Pachler et al., 2010; Perry, 2003; Pettit & Kukulska-Hulme, 2007). Moreover, a number of researchers have stated that using mobile devices inside a classroom might distract students as well as their classmates, and therefore they could miss some parts of the given lesson or fail to complete their class tasks (Fulbright, 2013; Martin &

Ertzberger, 2013; Norwood, 2012). Finally, teachers' negative attitudes towards using technology in class and the lack of the required skills to deal with the recent types of mobile devices on their side might hinder the use of m-learning (Lominé & Buckingham, 2009; Perry, 2003; Schaffhauser, 2011). This lack of knowledge could lead to preventing students from using their mobile devices inside the classroom for learning purposes, such as finding words' meanings.

Students' attitudes toward m-learning as well as the effects on their achievement in comparison to computer-based learning have been examined by Martin and Ertzberger (2013). The study was conducted on 109 undergraduate students who were enrolled in two courses; Instructional Design and Instructional Technology courses. Taking part in this treatment was obligatory as part of the course requirements. The participants were required to look at some paintings and to read about the art content of the paintings. They were divided into two groups; the computer-based group and the m-learning group. The first group looked at the paintings and then returned to their classroom to read the art content on their computers. The second group looked at the paintings and used their mobile devices to read the art content at the same time. Significant difference between the two groups in their achievement and attitudes was found. That is, the computer-based group scored higher than the m-learning group. On the other hand, the attitudes of the m-learning group were found to be more positive than the other group. However, Martin and Ertzberger (2013) explained that the m-learning group was distracted by their mobile devices as found from their observation and attitudes data.

Pollara (2011) has investigated students' and teachers' perception of m-learning inside and outside the classroom. She examined the perception of both teachers and students about the impact of m-learning on students' learning, participation and engagement. Her findings revealed that what teachers perceived about how students use m-learning and the actual use of m-learning by the students do not match. To elaborate further, the teachers were found to assume that the students do not use their mobile devices for learning purposes but for other reasons, such as socialisation and entertainment. On the other hand, it was found that students use their mobile devices in different ways to meet their learning needs. Therefore, it can be implicated that such mismatched perceptions could lead to many teachers preventing the use of mobile devices inside classrooms.

Nassuora (2012) investigated the acceptance of undergraduate Saudi students to use m-learning. He surveyed 80 male and female students from a private university in Saudi Arabia. The study found that around 82% of the participants were not familiar with the concept of m-learning. However, the learners showed positive attitudes to use m-learning in the future. The study recommended that universities' policies should consider supporting this type of learning.

Nassuora (2012) assumes that as the learners already have positive attitudes toward m-learning, universities should provide sufficient support to make m-learning successful.

2.3.3 Research on Mobile Assisted Language Learning (MALL)

Research on using mobile devices for language learning is usually referred to as mobile-assisted language learning (MALL) (Chinnery, 2006; Hsu, 2013; Kondo et al., 2012; Kukulska-Hulme & Shield, 2007; Viberg & Grönlund, 2012). The area of MALL is still in its infancy and there are many issues that need to be investigated and examined (Kukulska-Hulme & Shield, 2008). However, research and conferences on m-learning are growing recently and, therefore, would enrich and expand the current literature (Stockwell, 2010).

Al-Shehri (2011) conducted a DBR (Design-Based Research) study to investigate the effectiveness of integrating MALL into traditional language classrooms. He looked at how mobile technologies can help to extend the traditional classroom and provide language learners with a learning environment that is authentic, communicative and student-centred beyond the walls of their traditional classroom. 33 EFL students participated in the study. They were scheduled to use their mobile phones to take and upload photos or video clips to a Facebook group. The uploaded photos or video clips had to be associated with descriptions, captions or questions that required responses from the other participants. The remaining participants were required to post comments and respond to the questions in the Facebook group. The uploaded materials, comments and discussion were integrated back into regular classroom discussion in the week after. The study concluded that using Facebook via mobile devices helped to provide the learners with learning opportunities outside the classroom.

The attitudes of 45 EFL learners, from eight different countries, toward m-learning were investigated by Hsu (2013). Cross-cultural analysis was conducted to examine the attitudes of the participants. The study showed that there are significant differences between the participants due to their cultural backgrounds. However, all of them showed positive attitudes toward using MALL as a supporting tool for language learning.

Using MALL for L2 listening comprehension was investigated by Chen et al. (2012); 87 students were randomly divided into two groups. The first group listened to spoken materials only, while each participant in the second group was provided with a PDA containing written versions of the spoken materials, as a learning tool. The study aimed to investigate the effects of this simultaneous visual and auditory input on learners' comprehension for the spoken texts. It was found that the use of m-learning as a learning tool was not effective and did not improve students' auditory (listening) skills. However, it facilitated comprehension and helped the learners to obtain some knowledge.

The feasibility of implementing MALL to improve undergraduate students' language learning experience in a South African university has been examined and looked at by Stander (2011); 112 university students studying German as a foreign language participated in this study. The participants received different types of SMS (Short Message Service), such as a language tip, a quiz or a riddle. The messages were sent to the participants' mobile phones every day from Monday to Friday in the same period of time, between 10:00 to 13:00, via SMS. The contents of the messages were selected to be related to the topics and themes that students covered in their traditional classroom. The content of the language tip messages was discussed in the classroom. The quizzes and riddles were used to encourage interaction, collaboration and discussion among the participants. Two instruments were used for data collection; interviews and pre- and post-questionnaires. The study found that implementing MALL could be useful to enhance language learning. However, only a few students liked the idea of using SMS in their mobile phones for language learning. This was due to some problems: 1) the 160 character limit, 2) some characters typed in the German language did not appear correctly, 3) lack of cooperation and discussion between the teacher and the students as well as between the students themselves, and 4) lack of motivation.

Using mobile phones to facilitate and consolidate language learning at a Saudi university was examined by Khrisat and Mahmoud (2013). The study investigated the effect of ten features of mobile phones on the achievement of foundation-year students as well as their attitudes towards MALL. Forty intermediate-level, male students studying general English participated in this study. The participants were divided into two groups; experimental and control groups. The control group was taught traditionally, following the usual teaching strategies used in the English Language Institute. The experimental group was taught like the control group in addition to using MALL. The effect of MALL on the achievement of the students was examined by comparing the results of both groups in a pre-test and a post-test. The attitudes of the experimental group were checked by a pre-treatment questionnaire. The findings from the tests showed no significant difference between the two groups. However, the findings from the questionnaire showed that students have positive attitudes towards integrating MALL into the classroom. The study recommended that students must be trained to use their mobile devices for educational purposes as this might lead to making the MALL more effective in improving students' achievement.

2.3.4 MALL research on vocabulary

The effects of using multimedia messages (MMS) via mobile phones for vocabulary learning was investigated by Saran and Seferoglu (2010); 64 Turkish undergraduate students participated in their study. The participants were selected based on collected data from a pre-

study questionnaire before dividing them into two equal groups; experimental and control groups. New words were delivered to the participants' mobile phones via multimedia messages containing words' definitions, example sentences, pronunciations and related pictures. This was followed by sending quizzes via interactive Short Messages Service to test the achievement of the participants. The findings of this study showed that using mobile phones to deliver vocabulary via MMS and SMS is very effective to enhance vocabulary learning. In addition, the data collected from the interviews showed positive attitudes towards learning vocabulary through mobile phones.

Alavinia and Qoitassi (2013) conducted a research study to analyse the attitudes of 40 female EFL learners in Iran towards the effectiveness of using mobile devices for language learning. In particular, they investigated the effects of using text messages to enhance vocabulary learning. Different instruments were used to collect the data, namely pre-treatment and post-treatment questionnaires, vocabulary pre-test and post-test, and semi-structured interviews with half of the participants. The participants were divided into two groups: experimental and control groups. Both groups were taught in classroom using the same method and materials, but the experimental group received text messages on their mobile phone devices containing selected vocabulary items related to their course as an extra. Also, the experimental group was allowed to use dictionaries installed on their mobile devices if they needed to find words' meanings or obtain more knowledge. It was revealed that integrating MALL into a traditional classroom is effective and helped to enhance vocabulary gain. Moreover, comparing the findings from the pre-treatment questionnaire and the post-treatment questionnaires showed that students' attitudes toward the use of MALL have changed to be positive after they tried using their mobile devices for vocabulary learning.

Başıoğlu and Akdemir (2010) conducted a six-week study with Turkish undergraduate students to compare learning English vocabulary by using traditional flashcards and by using a flashcard application for mobile phones. However, the vocabulary in the application was explained in text format only without using pictures, videos or any other rich format. The experimental group was expected to learn the vocabulary in their own free time. They found that using mobile phones for vocabulary learning enhanced students' acquisition and showed positive attitudes toward the MALL. Also, the use of MALL is more enjoyable and effective than the use of traditional flash cards.

Another study in Australia was conducted by Levy and Kennedy (2005). The study aimed to investigate the attitudes of the participants towards the use of SMS for vocabulary learning. The participants were undergraduate students from Griffith University. They were learning Italian as their L2. SMS was used to send short definitions and examples (160 letters) to the

participants. The participants were expected to learn the received vocabulary outside the classroom in their own time. The number of messages, as well as the time of sending the messages, was controlled by the researchers. The average number of messages to be sent to the participants was nine to ten messages a week. It was found that 94.4% liked learning vocabulary via SMS.

Stockwell (2010) studied the effects of computer and mobile platforms. He based his study on a previous study that he conducted two years before (Stockwell, 2008) in which he found that students prefer using their personal computers to do vocabulary activities to using their mobile phones. Thus, in his recent study he wanted to investigate what features or reasons affect the decisions of the participants and make them prefer to use computer platforms rather than mobile platforms or vice versa. The results have shown that there was no difference in the scores between those who used the computer or the mobile platforms to do their vocabulary activities. However, there was a difference in the time of doing the vocabulary activities. The mobile users were found to spend more time in doing the activities than the computer users. It was justified by Stockwell (2010) that taking a longer time when using mobile devices could be attributed to two main reasons: features in the mobile phone interface, such as scrolling, and unseen environmental factors, such as being unable to complete the exercises while in busy and crowded trains.

2.4 Microblogging

According to Dhir (2013), the idea of microblogging emerged in 2005. Two years later, Microblogging started to become more widespread (Ebner et al., 2010). Microblogging tools can be defined as online applications that “allow users to exchange small elements of content, such as short sentences, individual images, or video links” (Kaplan & Haenlein, 2011, p. 106). They can be easily accessed through different devices (e.g. smartphones, tablets and personal computers) and platforms (e.g. applications and web browsers) (Zhao & Rosson, 2009). There are a number of microblogging tools, such as Twitter, Tumblr and Plurk. However, Twitter is the most widespread social microblogging service (Kaplan & Haenlein, 2011; Teevan et al., 2011).

2.4.1 Microblogging as an aspect of web 2.0 technology and social networking

Microblogging is one of many social networking applications. The advent of social networking applications dates back to 2004 when “the concept of ‘Web 2.0’ began with a conference brainstorming session between O’Reilly and Media Live International” O’Reilly (2005). The

main distinctive feature between web 1.0 technology and web 2.0 technology is that the applications of web 1.0 technology displayed discrete packages of online information while web 2.0 allows users to participate and interact with each other (Sandars & Haythornthwaite, 2007). As a result, “the applications associated with it (web 2.0 technology) shocked the traditional eLearning world” (Ebner et al., 2007, p. 559). Social networking applications are among the new technologies that have taken advantage of enabling users’ interaction and participation in online contexts (Ebner et al., 2007; Ghirardini, 2011).

Social networking applications, such as Twitter, Facebook and Instagram can be generally defined as online sites that any person can use to create and display his own profile, connect and interact with others in social networking spheres (Ellison et al., 2007; Oh et al., 2014). According to Ellison et al. (2007), social networking can be oriented towards different purposes. For instance, (1) Facebook and Twitter to allow friends updating and sharing their statuses, (2) Edmodo to connect students, and (3) LinkedIn to connect people in work-related environments.

A comprehensive definition of social networking was provided by Parameswaran and Whinston (2007, p.762) as “applications and services that facilitate collective action and social interaction online with rich exchange of multimedia information and evolution of aggregate knowledge”. This definition highlights the features of social networking and their potential facilitation of group work, social interaction, exchanging audio-video materials, and developing collective knowledge. In this research, this definition will be used to reflect the main underlying features and practices of using the adopted social microblogging tool for learning.

Social networking applications have been noticeably featured in techno-centric discussions that could be employed to amplify and support learning activities that incorporate collaboration, meaning negotiation, communication and interaction (Greenhow et al., 2009; Veletsianos, 2012; Veletsianos & Navarrete, 2012). However, the amount of empirical research investigating their usefulness and impact on learning is limited (Schroeder et al., 2010). A number of studies that investigated different issues related to using social networking applications for educational purposes will be reviewed in the following paragraphs.

From a pedagogical perspective, Yu et al. (2010) investigated the impact of individual engagement in social networking websites, such as Facebook, on students’ university life. They employed two main research instruments: focus group discussions and an online survey. Four rounds of focus group discussions were conducted with 14 students. With regard to the survey, email invitations were sent to 474 university-level students majoring in Information Systems to anonymously respond to it. However, only 187 valid responses were received. It was found that

individual engagement in social networking has a significant impact on social learning improvements and outcomes. Moreover, individual engagement in social networking was found to positively help learners to attain social acceptance and increase their awareness of the university culture.

In a small-scale case study, the effect of integrating a wiki into a language class was investigated by Woo et al. (2011). The study attempted to explore how the use of the wiki's educational and technological affordances could facilitate scaffolding among EFL learners while engaging them in collaborative writing activities including problem-solving and critical thinking. The findings of the study showed that students found learning with their peers enjoyable and the use of the wiki useful. The wiki has also been used in another study by Alzahrani (2013). Alzahrani investigated the impact of collaborative learning and interaction facilitated by the wiki on learning biology. Most of the participants in his study reported that biological content as well as readable information posted by other learners were significantly useful in that they helped to increase their knowledge of biology.

In another study, Al-Shehri (2011) has examined the effectiveness of integrating Facebook and m-learning into EFL classrooms. This integration aimed to create opportunities for online communication, increase the amount of exposure to authentic language, and encourage student-centred learning while outside the classroom. The findings of the study showed that using Facebook via mobile devices provided the students with reality-based learning experiences as it enabled them to engage in meaningful and useful communication with other users in the social networking sphere.

The role of social networking applications and the impact of implementing m-learning on university level students have been explored by Gikas and Grant (2013). The implementation of m-learning into the participants' course lasted for two academic terms. The study reported that using social networking applications and m-learning allowed students to engage in producing learning content, provided occasions for collaboration, and created opportunities for interaction and communication. Additionally, it showed how the integration of m-learning could positively impact on students' learning through facilitating learning anywhere and anytime while providing quick access to desired information and social interaction. On the other hand, a number of challenges were reported, namely anti-technology instructors, distraction, and device use challenges.

2.4.2 Twitter as a microblogging tool

Twitter is a social microblogging application, and is comprehensively defined in its official website (Twitter-Help-Center, 2014) as:

“A service for friends, family, and coworkers to communicate and stay connected through the exchange of quick, frequent messages. People post Tweets, which may contain photos, videos, links and up to 140 characters of text. These messages are posted to your profile, sent to your followers, and are searchable on Twitter search”.

Twitter was also defined by a number of researchers (e.g. Kwak et al. 2010; Honey & Herring 2009; Huberman et al. 2008; O’Neill 2010; Mollett et al. 2011). It has been defined by Kwak et al. (2010, p. 1) as “a microblogging service”, and as “a website where you can leave messages of up to 140 characters long for other people to read” (O’Neill 2010, p. 6). The last definition is similar to that of Mollett et al. (2011, p. 1) who defined Twitter as “a form of free micro-blogging which allows users to send and receive short public messages called tweets”. A more comprehensive definition of Twitter was provided by Huberman et al. (2008, pp. 2-3) who defined it as an “online social network used by millions of people around the world to stay connected to their friends, family members and co-workers through their computers and mobile phones”. While the three definitions provided by Kwak et al. (2010), O’Neill (2010) and Mollett et al. (2011) describe Twitter as a social networking means in general and as a form of microblogging in particular, Huberman et al.’s (2008) definition appears to capture a number of additional important features. More specifically, it provides a description of what Twitter is, who uses it, for what purpose, and how it can be accessed.

Carter (2011) has discussed the uniqueness of Twitter among other social networking websites. He argued that although many social networking websites appeared before Twitter, the impact and the wide spread of the latter cannot be overlooked or go unnoticed. Carter (2011) has justified this impact by attributing it to its distinctive feature of sending and receiving bite-sized messages (maximum 140 characters in each Tweet) as opposed to sending and receiving long information in other social networking websites, such as Facebook. McFedries (2007, as quoted in Ebner et al. 2010, p. 92) has stated that Twitter “can be seen as a weblog that is restricted to 140 characters per post but is enhanced with social networking facilities”. According to Carter (2011), because Tweets are short, producing, sharing, and distributing information has become faster. Finally, Twitter has glorified the concept of reciprocity and encouraged interaction between its users in a way that is impossible in other social networks (Carter, 2011; Ebner et al., 2010).

A number of important terms that refer to features, uses and concepts in the Twittersphere are listed and explained in Table 1. The explanations will be quoted from the Twitter official website ‘the basics’ (Twitter-Help-Center, 2014) followed by further explanation or examples provided by the researcher.

Table 1: Twitter important terms

Terminology	Meaning/explanation
Twitter username	A name or nickname a person chooses when signing up for an account in Twitter. It must be preceded by '@' sign; for example, @username.
Twittersphere	Refers to the context of Twitter or the world of Twitter including the tweets, users, the culture of Twitter, and interactions.
Tweet(s)	"Is an expression of a moment or idea. It can contain text, photos, and videos. Millions of Tweets are shared in real time, every day".
Compose	"Write a tweet, post a photo, or share a video".
Retweet	"Share a Tweet with your followers. You can even add your own thoughts before you share it". It refers to sending out someone else's tweet.
Reply	"Comment on a Tweet and join the conversation". This option is used in Twitter when a user reads a tweet of another user and wants to interact with that user or send a response related to that particular Tweet, make a comment, express opinion or feelings. The original Tweet and any replies will be linked together and appear as a sequenced conversation. When replying to a Tweet, the username of the first user will be automatically included in the body of the reply and this will direct the reply to the right person. Similarly, if more than one user are participating in the interaction, their usernames will be included as well.
Mention	Refers to including a user's name in the body of a Tweet to drag his/her attention to that Tweet.
Follow	Subscribing to other users to receive their updates/Tweets.
Follower	A user who subscribes to receive another user's updates/Tweets.
Following	Refers to Twitter users who are followed by a user to get updates about their status and receive their Tweets.
Hashtag	"Assign a topic to a Tweet. So, for example, Tweets that contain #WorldCup are about just that. Click on a hashtag to see Tweets related to a topic". The symbol '#' is used widely in Twitter to group the Tweets that address a specific topic or interest. It also makes searching about a name, word, topic, or interest easier and help to provide organized results displayed in chronological order.
Favourite	"Favourite a Tweet to let the author know you like it". The liked Tweet will automatically be added to the user's favourite list.
Message	"Have private conversations with your followers".
Search Twitter	A feature that allows users to search for a word, topic, person, or organization that were tweeted about. The search results will be limited to Twittersphere and will not include other online sources. Results will display other users' Tweets and available hashtags.
Timeline	"When you follow people, their Tweets instantly show up in your timeline. Similarly, your Tweets show up in your followers' timelines". The Tweets will be displayed in a chronological order.
Notifications	A feature that notifies you as a user to "see when someone retweets or favourites one of your Tweets, replies to you, or mentions you".

2.4.3 Educational affordances of using Twitter in education

The mission of Twitter.com as displayed on its official page is "to give everyone the power to create and share ideas and information instantly, without barriers". According to Kaplan and Haenlein (2010), the flagship feature of social networking, including Twitter, is connectedness. This incorporates information-sharing and social interaction between users in online communities. Similarly, Carter (2011) has claimed that social networking websites were created initially with no specific need or targeted users in mind but to connect people. However, flexibility is another important feature of social networking as it can easily be

oriented toward different purposes (Ellison et al., 2007). Accordingly, it is commonly observed that social networking websites are not only used to connect people but they are also used for many different purposes, such as advertising, searching information, spreading news, teaching, learning, customers' services, and watching events. This section pays particular attention to the educational affordances of using Twitter as a microblogging tool and how it can facilitate learning.

In the last few years, Twitter has attracted much more attention than a number of other social networking applications (Kaplan & Haenlein, 2011; Kwak et al., 2010; Zhao, et al., 2011). With a particular focus on education, recent research shows that Twitter has attracted many researchers and teachers to integrate it into formal courses to facilitate and enhance learning in a number of different ways. These include using Twitter to facilitate (1) collaborative learning, (2) discussions, (3) communication and interaction, (4) content delivery and (5) engaging learners in a variety of social learning activities (Grosbeck & Holotescu, 2008; Honeycutt & Herring, 2009; Junco et al., 2013; Junco et al., 2011; Mollett et al., 2011; Ross, 2013; Schroeder et al., 2010; Veletsianos & Navarrete, 2012).

As an application of web 2.0 technology, not only does Twitter allow learners to read published or posted information but also it allows them to participate, respond and interact with each other or with their teachers (Ebner et al., 2007; Mills, 2011; O'Reilly, 2005; Sandars & Haythornthwaite, 2007; Schroeder et al., 2010). Twitter, as such, can be used by teachers and learners to engage in many social learning activities, such as discussing educational related topics, asking and answering questions, meaning negotiations and group work activities. Previous studies showed that using Twitter for learning purposes could impact on students' learning experiences positively and thus enhance their learning achievements (Al-Shehri, 2011; Alzahrani, 2013; Gikas & Grant, 2013; Veletsianos & Navarrete, 2012; Woo et al., 2011; Yu et al., 2010). A number of factors that are informed by the findings of previous studies could explain how integrating Twitter as a microblogging tool into class can enhance the learning process and outcomes.

First, using Twitter can extend discussions beyond the walls of the classroom, especially when the time of class is limited or when it has a large number of students (Al-Shehri, 2011; Kassens-Noor, 2012; O'Reilly, 2005; Schroeder et al., 2010). Learners can microblog about and engage with their classmates as well as their teacher in course-related discussions, such as asking for and/or providing clarifications. Second, e-learning environments, including Twittersphere, can establish a relaxed learning atmosphere which are presumed to increase learners' engagement as well as encourage them to be active learners (Al-Mansour & Al-Shorman, 2012; Andrade & Williams, 2009; Hobrom, 2004; Jones, 2008; Kitano, 2001; Li, 2011; Littlewood, 1984;

MacDonald & Stodel, 2005). Third, Twitter is accessible anytime anywhere which means that it can be used by learners to learn whenever that is desired, anytime or anywhere (Borau et al., 2009; Cui & Bull, 2005; Hlodan, 2010; Llic, 2013; Lu, 2008; Palalas, 2012; Sharples, 2000; Sharples et al., 2007; Stockwell, 2007). Fourth, Twitter inspires posting concise pieces of information. This helps to increase learners' attention and focus on learning (Ebner et al., 2010), and minimise learners' distraction that could be caused by posting much new information at a time (Altiner, 2011).

Fifth, microblogging as an online tool facilitates instant searching and finding of information related to a particular word or topic of interest (Abdous et al., 2009; Alzahrani, 2013; Cox, 2012; Oblinger et al., 2005; Rahamat et al., 2011; Salvia, 2000; Song & Fox, 2008). The return results provide learners with many examples showing authentic usage of language. Exposure to authentic use is, therefore, expected to facilitate learning (Guariento & Morley, 2001; Roberts & Cooke, 2009; Schwienhorst, 2012). Accordingly, Twitter can function as an online concordancing tool that allow learners to find many examples of language use, creating corpora that are made up authentically by people who use Twitter for everyday social communication (Flowerdew, 1993; Lee et al., 2015; Sun & Wang, 2003).

Finally, Twitter helps to foster learner's autonomy through transferring the responsibility to the learners, encouraging more active and independent learning (Belz, 2002; Brandl, 2002; Little, 2007; Llic, 2013; Nikolova, 2002; Stockwell, 2013). More specifically, in contexts where Twitter is already part of learners' everyday life, using it in educationally relevant ways is "likely to be more supportive of autonomy" (Benson, 2013, p. 153). Also, in light of Little's (2007) assertions regarding language learner autonomy, learners can benefit from the affordances Twitter offers not only to select relevant learning materials but also to use and practice what they learn independently. Accordingly, in the Twittersphere, learners can benefit from accessing lots of authentic materials as well as practicing their language through writing posts in the targeted language. The following section presents further empirical studies on using Twitter and how it can facilitate learning.

2.4.4 Previous studies on using Twitter for learning

Borau et al. (2009) attempted to utilise Twitter as a tool of communication that can be used by language learners to practise recently learned aspects of language. Their investigation showed that Twitter helped to engage the learners with the language through using the targeted language to take part in social interactions in the Twittersphere. In another study, Welch and Bonnan-White's (2012) findings showed that the effect of integrating Twitter into introductory

sociology and anthropology courses might be influenced by learners' attitudes. In other words, they found that the learners who enjoyed using Twitter benefited more than those who did not.

Using Twitter for language learning and practice has been examined by Lomicka and Lord (2012). The study was conducted with university intermediate French students. The study aimed to investigate the effect of using Twitter by the students in order to put to use and practise their French language with each other and with native French speakers in the Twittersphere. Twitter was used to provide the learners with a virtual community where they can practise their targeted language outside the classroom. The study concluded that Twitter helped the learners to learn collaboratively, share knowledge and reflect on each other's learning.

The impact of using Twitter on learners' engagement, and thus on learning outcomes, were investigated in two related studies conducted by Junco et al. (2011) and Junco et al. (2013). Twitter, in the first study, was integrated into a formal university class and was used structurally as a part of the course. Both students and teachers were encouraged to engage with the course materials on the platform of Twitter. The results demonstrated that Twitter helped to increase learners' engagement and grades and exceeded that to increase teacher's engagement as well. However, in the second study, Twitter was not as influential as it was in the first study. More specifically, Twitter had no significant impact on the participants' levels of engagement or learning outcomes. This could be attributed to three important factors. First, Twitter was integrated in the course as an optional tool. Second, no framework or structure was imposed to guide the use of Twitter. Third, teachers did not engage or show their presence in the Twittersphere. In their conclusion, the researchers identified three effective elements of integrating Twitter into college courses that can be considered best practice:

1. Requiring students to use Twitter as part of the course is important in affecting academic outcomes.
2. Twitter should be integrated into the course in educationally relevant ways.
3. Faculty engagement in the platform is essential in order to impact students' outcomes (Junco et al., 2013).

In line with the findings of the last study, Lin et al. (2013) found that integrating Twitter as an optional tool reduced the duration of time through which the learners continued to use the tool and thus limited its effect. In their study, Lin et al. (2013) investigated students' perceptions about using Twitter as a learning tool in university courses. Two groups of university students registered on a 'Computers in Education' course and a third group registered on a 'Mobile Learning' course were recruited in this study. Using Twitter in this study was optional. Data was collected from students' self-reports on their usages and interests, Tweets content analysis

and the counts of posted Tweets. The researchers reported that while most students started to use Twitter at the beginning of the treatment, few students continued to use Twitter during the semester. The study has found that the participants enjoyed using Twitter, but as readers of others' Tweets more than being actively tweeting or replying to others' Tweets. Only two students were found to interact occasionally on Twitter. No collaboration had occurred between the students. Some requests, comments and questions went unanswered.

Lin et al. (2013) provided a number of useful recommendations for teachers who would think of integrating Twitter into their university courses. First, scaffold students. This includes providing students with tutorials and any possible support that will lead them to struggle less when using Twitter as a learning tool. Second, address privacy. That is, raise students' awareness and give them the choice to create a separate Twitter account if they prefer not to use their own personal account. Third, establish a purpose. More specifically, teachers need to clearly highlight the purpose of using Twitter and identify specific tasks for learners to do. Fourth, provide model use with structure. For example, teachers post Tweets related to a students' subject, such as articles and comments.

Using Twitter for post-reading activities among university level students was investigated by Hamidon et al. (2013). The study aimed to investigate the perceptions of some experienced Twitter users about the potential uses of Twitter for post-reading activities. They interviewed a number of language learners, language experts and course developers. The study found out that using Twitter for academic courses, including language learning, will take some time before it might be used effectively. This can be attributed to a number of reasons. First, there was a lack of certainty of how Twitter could be used for learning activities. Second, many learners were found to prefer Facebook more than Twitter. Third, many students could not afford connected mobile devices.

Ross (2013) explored teachers' perspectives on using Twitter for learning purposes. He surveyed 160 teachers to investigate whether they use Twitter for educational matters, such as connecting with other teachers through the network to exchange experience, develop skills and seek information. For this purpose, the researcher used a number of education-related Twitter hashtags. Interviews with 32 teachers followed the survey. The study concluded that the teachers used Twitter to develop their skills, update their knowledge, and exchange experience with other teachers globally. Also, 90% of the teachers expressed their intention to continue using Twitter. With regard to their beliefs, most of the interviewed teachers (71%) indicated that they found using Twitter useful and helpful.

2.5 Mobile microblogging in the context of this research

Bringing the literature presented in the two previous sections together, this section shows the relevance of that literature to the current study and how it informs its design. This research pays particular attention to the dramatic change that web 2.0 technology has made to the traditional form of e-learning. More specifically, the introduction of new online social applications enables users/students to engage in producing and sharing knowledge as well as interacting and communicating with others in the online community. Based on the reviewed relevant studies, it is clear that using m-learning and social networking tools can facilitate learning and teaching to a great extent (Junco et al., 2013; Khrisat & Mahmoud, 2013; Lin et al., 2013; Miangah & Nezarat, 2012; Ross, 2013; Stead, 2005; Veletsianos & Navarrete, 2012; Viberg & Grönlund, 2012). However, the use of m-learning or social networking tools in previous research was not without problems. This is to say, the incorporation of m-learning is not as smooth a process as some may expect or imagine; a number of studies reported some considerable challenges (Fulbright, 2013; Lominé & Buckingham, 2009; Martin & Ertzberger, 2013; Schaffhauser, 2011).

Accordingly, this research builds on the successful implementation of m-learning in previous research to inform its design, guide its development as well as avoid potential challenges. Overall, this study aims to utilise the positive aspects of mobile microblogging by integrating them into the participants' course to enhance their learning outcomes. However, a number of fundamental issues need to be considered. First, each context or class has its own specific characteristics and circumstances that might be dissimilar to other contexts. For example, while affording connected mobile devices was a challenge in some research contexts (Hamidon et al., 2013), it was not in a number of other contexts (Altameem, 2011; Chanchary & Islam, 2011; Khrisat & Mahmoud, 2013; Nassuora, 2012; Seliaman & Al-Turki, 2012). Second, the integration of the mobile microblogging into the participants' course has to be done in educationally relevant ways (Junco et al., 2013). This will be further discussed in the following two chapters (see 3.4.4 and 4.7.3.2).

2.6 Summary

This chapter was concerned with the two key aspects of mobile microblogging, m-learning and microblogging. It reviewed and identified the general underlying characteristics of m-learning including portability, connectivity, accessibility, and learning anytime anywhere, showing how this form of learning surpasses other types of technology-enhanced learning, such as computer-assisted learning. It also demonstrated the positive impact of this form of learning on learners'

experiences, knowledge gains and development, as informed by previous studies. Similarly, it made clear that the use of social microblogging networking tools can offer means to facilitate as well as engage learners with their targeted materials and thus have a positive impact on their learning outcomes. The following chapter moves on to consider how the use of the mobile microblogging tool could increase learner's involvement and engagement with vocabulary and thus impact favourably on their gains and knowledge development.

Chapter 3: Involvement and engagement with vocabulary learning and the social context

3.1 Introduction

This chapter is concerned with laying out the theoretical dimensions of the research. It has been organised in the following way. It begins by providing background information on vocabulary learning. Then the chapter goes on to introduce the Involvement Load Hypothesis, the notion of engagement with vocabulary and the sociocultural theory which serve as a framework of this research.

3.2 Vocabulary learning

The acquisition of proficiency in any language necessitates learning its vocabulary. When building a wall, bricks are considered one of the most essential elements that are needed to accomplish the building. Vocabulary knowledge to the process of language learning is as essential as the bricks to the process of wall-building.

This area of research has received continual attention during the last few decades. Expanding one's vocabulary in order to be able to use the target language efficiently is a challenging task that is typically associated with much struggle on the side of the learners. This is why facilitating the process of vocabulary learning has been a central issue for teachers and researchers alike in the field of language learning and teaching.

This section discusses the importance of vocabulary in language learning. This will be followed by presenting the approaches to vocabulary learning. Finally, aspects related to vocabulary knowledge and measurement will be addressed.

3.2.1 The importance of vocabulary in language learning

Almost all those involved in language learning and teaching can agree that vocabulary is an essential component of language learning (Schmitt, 2010b). Wilkins (1972, p.111) has stated that, "without grammar very little can be conveyed, without vocabulary nothing can be conveyed". According to Nation and Waring (1997, p.6) "Vocabulary knowledge enables language use, language use enables the increase of vocabulary knowledge, knowledge of the world enables the increase of vocabulary knowledge and language use and so on". This shows how vocabulary learning has been always viewed as a fundamental aspect in second language

learning. It also indicates why vocabulary learning and teaching have attracted many researchers to investigate many issues in this area; for example, vocabulary size and depth (e.g. Akbarian, 2010; Hirsh & Nation, 1992), teaching and learning L2 vocabulary (e.g. Choudhury, 2010; Laufer, 2009) and vocabulary learning strategies (Alqahtani, 2005; Eder, 2006).

Krashen (1989) has listed a number of ‘excellent’ reasons on the practical and theoretical levels why vocabulary learning is important and deserves to receive greater attention. First, having a large amount of vocabulary is an advantage to mastering any L2. Second, it is obvious that many language learners are aware that the more vocabulary they gain, the more they progress in their L2 learning. Therefore, L2 learners “carry dictionaries with them, not grammar books, and regularly report that lack of vocabulary is a major problem”. Finally, it is assumed on the theoretical level that vocabulary research would contribute towards expanding our understanding of the field of language acquisition. That is, acquiring vocabulary is similar to acquiring any other language aspect. Therefore, based on this assumption, the language laboratories used for the purpose of researching vocabulary can be considered as “useful laboratories for the study of language acquisition” (Krashen, 1989).

Additionally, research on vocabulary provides plenty of evidence that emphasises the importance of vocabulary acquisition as well as highlighting how it correlates with different aspects of language knowledge and proficiency. It has been pointed out that vocabulary knowledge is evidently associated with academic success in general (Zwiers, 2014) and language learning in particular (August et al., 2006; Becker, 1977; Nation, 2001). A number of researchers have argued that different aspects of language skills, such as L2 grammatical knowledge, are reliant on vocabulary size and knowledge (Ellis, 1997; Milton et al., 2010; Stæhr, 2008). Becker (1977) has suggested that poor vocabulary size of learners is among the main reasons for their academic failure. He has claimed that providing learners with structured programmes to consolidate their vocabulary will increase their academic success. Generally, a larger vocabulary size leads to better functioning in a second language (e.g. Schmitt, 2010a; Nation & Waring, 1997; Laufer, 2010; Laufer & Ravenhorst-Kalovski, 2010).

The relationship between vocabulary size and adequate reading comprehension has been investigated by Laufer and Ravenhorst-Kalovski (2010). They found a correlation between vocabulary size and reading comprehension. Learners whose vocabulary size was large were found to be able to read the frequent words in texts better than those with a smaller vocabulary size. Similarly, Nagy (1988) claims that there is a significant relationship between vocabulary and comprehension. The more vocabulary learners have, the more they are able to comprehend the language they read or hear. He asserts that knowing a large amount of vocabulary is

essential to progress in language education. In contrast, lacking enough vocabulary leads to having difficulty in language learning and development.

The role of vocabulary in listening comprehension has been highlighted in empirical research. Stæhr (2009) has provided empirical evidence that successful listening comprehension is associated with vocabulary knowledge. Moreover, the study has suggested that learners need to have a lexical coverage of 98% in order to understand spoken materials. In the same vein, Milton et al., (2010) examined the relationship between EFL learners' vocabulary size and their IELTS results using two vocabulary measures, A_Lex (Milton & Hopkins, 2005) and the X_Lex (Meara & Milton, 2006). They found that learners' vocabulary size has a tremendous impact on their overall score in the IELTS test in general and on their listening score in particular. Furthermore, many studies have outlined that listening and reading comprehension both have a similar strong connection with vocabulary size and knowledge (Adolphs & Schmitt, 2003; Milton et al., 2010; Nation, 2006; Stæhr, 2009).

Drawing on the relationship between vocabulary and different aspects of language, Laufer and Nation (1995) investigated the correlation between the types of words learners used in their writing and their vocabulary level. The correlation was measured using the productive version of the Vocabulary Level Test. The study found a connection between learners' vocabulary size and their writing in that the higher the learners' vocabulary level is, the more sophisticated their writing will be. This view is also supported by Leki and Carson (1994) who reported that L2 learners believe that the quality of their writing was mainly affected by their knowledge of vocabulary.

3.2.2 Approaches to vocabulary learning

Vocabulary has received great interest and attention by many second language learners, materials writers, researchers and teachers. Vocabulary learning, as emphasised by many scholars, is an incremental process that takes place progressively over time (Schmitt 2010b, 2010a; Laufer & Girsai 2008; Nation 2001). A number of authors have emphasised that this progressive learning of vocabulary begins usually with the form-meaning link before it transfers to the other several aspects of vocabulary knowledge (Hairrell et al., 2011; Laufer & Goldstein, 2004; Nation & Webb, 2011; Stæhr, 2009).

According to Sonbul, (2013), two main approaches to vocabulary learning have been proposed by lexical researchers, intentional (explicit) and incidental (implicit) approaches. A considerable amount of literature has been published on the practices of both approaches. These studies have investigated many issues related to the two approaches, and many thoughts and recommendations about them have been revealed (e.g. Pétursdóttir, 2013; Laufer & Hulstijn,

2001; Fisher et al., 2012; Laufer & Rozovski-Roitblat, 2011; Laufer & Girsai, 2008; Amiryousefi & Kassaian, 2010; Sonbul & Schmitt, 2009).

Hulstijn (2005) has described the explicit approach as vocabulary teaching and learning practices that consciously focus on input, such as form-focused activities. In other words, the intentional approach refers to any activities that drag learners' attention to focus on the form-meaning link of the words they are learning. It has been established by lexical researchers that this intentional learning is essential for a form-meaning link and meaning aspects (Ellis, 1997; Nation, 2001; Schmitt, 2008). On the other hand, vocabulary can also be learned incidentally (implicitly). Laufer and Hulstijn (2001, p.554) have explained that incidental vocabulary learning refers to "the learning of vocabulary as a by-product of any activity not explicitly geared to lexical items". They have noted that learning vocabulary incidentally encompasses gaining knowledge of a word without focusing on committing its knowledge to memory. However, which approach is more effective or better than the other is greatly debated.

A considerable amount of research has agreed and provided evidence that using intentional vocabulary learning might be essential and useful in many situations (Hulstijn, 2001; Laufer & Girsai, 2008; Laufer & Hulstijn, 2001; Nation, 2001; Nation & Webb, 2011; Schmitt, 2010b; Sonbul, 2012; Stæhr, 2008; Stæhr, 2009). Lexical researchers have claimed that more attention has to be given to the high frequency lexical items because L2 learners will encounter them (in written or spoken formats) more than the low frequency words (Meara, 1995; Nation, 2001; Schmitt, 2008; Schmitt, 2010a). Besides the high frequency words, other categories of vocabulary might better be taught and learned intentionally. These include important and useful words for L2 learners, such as words needed by students, needed for class administration, technical words, academic words and words that might facilitate further learning (Nation & Meara, 2013; Schmitt, 2000; Schmitt, 2010b). It was argued by Nation (2001) that giving more attention to such important and high frequency words could increase learners' vocabulary and as a result the percentage of text coverage will be raised, which then might assist with learning low frequency words. Moreover, empirical evidence has shown that intentional vocabulary learning leads to better vocabulary retention (Hulstijn & Laufer, 2001; Laufer & Girsai, 2008; Laufer & Shmueli, 1997; Nassaji, 2003; Paribakht & Wesche, 1997; Prince, 1996; Zimmerman, 1997). In addition, intentional vocabulary learning includes the teaching and learning of words taught and learned in isolation (Mondria & Mondria-De, 1994; Qian, 1996). It is argued by Nation (2001) that the use of decontextualised form-focused activities in L2 classrooms could be beneficial because of their strong and faster impact, usefulness and practicality, wide applicability, and the positive effect of learning achievement on beginner L2 learners.

However, the explicit approach to vocabulary learning carries with it some limitations. Waring (2002) claims that it is not necessarily that focusing explicitly on lexical items will lead to learning them. Also, engagement with words, including exposure and words recycling, is necessary to consolidate the learning (Alhumood, 2007; Schmitt, 2010b). Clearly, this approach requires a long time and, due to that, a small number of lexical items might be learned using this approach (Nation, 2005). Also, it has to be noted here that explicit vocabulary teaching requires more effort from the teacher (Nation, 2001).

On the other hand, incidental vocabulary learning usually requires less effort from teachers, as well as less class time, than explicit vocabulary learning (Nation, 2001). L2 learners might learn vocabulary while their attention is initially focused on a L2 language input (written or spoken) (Schmitt, 2008). In other words, learners' focus would be on the message of the text not on the vocabulary items. Almost every paper that has been written about incidental learning mentions that learning from context is effective and most of our language vocabulary is often learned this way (Alhumood, 2007; Fisher et al., 2012; Nagy, 1997; Nagy & Anderson, 1984; Nagy et al., 1985; Nation & Coady, 1988; Nation & Meara, 2013; Waring, 2002a; Waring & Nation, 2004). It has been specified, in the literature, that reading is commonly believed to facilitate incidental learning (Coady, 1997; Huckin & Coady, 1999; Nation & Meara, 2013; Waring & Nation, 2004). According to Nation and Meara (2013), when learning from context, learners are expected to guess the meaning of the unknown words they come across. Besides extensive reading, L2 learners should use different contextualized activities, such as TV and radio, involving themselves in interactions and listening to books or stories (Nation, 2001). Lastly, it is important to clarify that "the efficacy of learning from context must be evaluated, not in terms of short-term competition with direct instruction, but in terms of the volume of vocabulary growth that can be accounted for over an extended period of time" (Nagy et al., 1985, p. 236).

However, the incidental vocabulary approach has a number of limitations. The key limitation is associated with guessing the meaning of unknown words from the context. Some lexical researchers have indicated that guessing from context has a number of serious problems. First, L2 language learners might hardly find enough clues that help with guessing the meaning from context (Huckin & Coady, 1999; Nagy et al., 1985). Second, if enough clues are available, L2 learners need to have enough vocabulary knowledge of the other surrounding words to make accurate guessing (Huckin & Coady, 1999). Empirically, Laufer and Sim (1985) have found that guessing the meaning from context was not effective for learners with low vocabulary knowledge.

Third, guessing an incorrect meaning or having difficulty in deciding the appropriate meaning is another problematic issue (Bensoussan & Laufer, 1984; Grabe & Stoller, 1997). Sokmen (1997)

declares that unlearning incorrect meaning might not be easy for many learners. Fourth, accurate guessing for the meaning of a word does not necessarily mean it has been acquired or stored in learners' long-term memory (Huckin & Coady, 1999). A number of studies have measured learners' delayed-retention of words learned incidentally from reading and found a significant decrease in the amount of their vocabulary (Mondria & Boer, 1991; Parry, 1993; Rott, 1999; Waring & Takaki., 2003).

Moreover, it takes a very long time to incidentally learn a large amount of vocabulary, while L2 learners might have a limited time to learn (Alhumood, 2007; Huckin & Coady, 1999). This is not meant to imply learners need not to be equipped with vocabulary building skills (Sternberg, 1987) as well as guessing and reading strategies (Huckin & Coady, 1999). Rather, it can be argued that providing sufficient training might not be possible in situations where time is limited.

Finally, one question that needs to be asked is whether intentional (explicit) and incidental (implicit) approaches should be considered as complementary or dichotomous approaches. A considerable amount of research suggests that deliberate vocabulary teaching and incidental vocabulary learning are viewed currently as complementary approaches (Hunt & Beglar, 2005; Nation, 2001; Nation & Webb, 2011; Schmitt, 2008; Sokmen, 1997; Sonbul & Schmitt, 2009). Moreover, with regard to the dissimilarity between the two approaches, caution should be exercised and this difference should be viewed as a continuum rather than a dichotomy. It can be elaborated that combining both approaches could be useful and each of them develops the learning gained from the other (Hill & Laufer, 2003; Mondria, 2003; Nation, 2001; Schmitt, 2008; Sonbul & Schmitt, 2009). Explicit vocabulary teaching is more effective in some situations, such as for learners who are in their early stages of language learning, or when important words need to be taught, such as the high frequency words. On the other hand, incidental learning might be more effective when learners' level becomes advanced as they could learn a new word by using the known words as clues to guess the meaning of that new word.

However, Alothman (2014, p. 52) argues, based on a personal meeting with Norbert Schmitt and on the basis of Sonbul and Schmitt's (2009) work, that it might "be better to add *enhanced* vocabulary learning (beside incidental and explicit) to describe explicit teaching of words contained in contextual sentences". Alothman believes that it would be safer to classify vocabulary learning approaches into three instead of two as this will help with describing the teaching and learning practices more accurately. From his point of view, enhanced vocabulary learning will cover situations when focusing on words contained in small context sentences or

phrases is necessary, like in the case of highlighted or underlined words that appear in reading passages.

In this research, the view described earlier, that intentional and incidental vocabulary learning are complementary approaches and that each one of them develops the learning gained from the other, is supported in this research. However, in relation to the actual practices of vocabulary learning in this research, Alothman's (2014) view appears to be more adequate and representative.

It can be argued, based on the literature (e.g. Nation & Meara, 2013; Schmitt, 2000; Schmitt, 2010b), that this research appears to employ the explicit approach which is considered to be the best when learners need to learn particular lexical items for the purpose of understanding a reading passage or pass a university course. Explicit activities are characterised as decontextualised activities focusing on words in isolation, such as flash cards. However, the way the implemented tool is used, mobile microblogging in the current research, incorporates learning the targeted items in small context sentences. Learning the targeted words in contextualised sentences seems to be incidental not explicit. Therefore, both approaches appear to facilitate vocabulary learning but, in terms of clearly describing the actual practices, *enhanced vocabulary learning* seems to best describe the vocabulary learning in this research.

3.2.3 Vocabulary knowledge and measurement

A considerable amount of research has discussed and investigated different issues related to vocabulary knowledge (e.g. Laufer & Goldstein, 2004; Schmitt, 2010b; Nation & Webb, 2011; Brown, 2010; Meara, 1995; Jordan, 2013; Laufer & Hulstijn, 2001; Schmitt, 2008; Nation, 2012; Laufer & Rozovski-Roitblat, 2011; Nation, 2001; Henriksen, 1999). According to Laufer and Goldstein (2004, p.403) vocabulary items are "the first and foremost units of meaning". As such, learning the meaning of lexical items is "the central component of words knowledge" (Laufer and Goldstein, 2004, p.404). Nation (2001) listed three broad areas covering the aspects of knowing a word, form, meaning and use. He emphasised that knowing the form of a word is not enough and it is necessary to connect the form with an appropriate concept or meaning, also referred to as form-meaning link. Henriksen (1999, p.303) has proposed three continuum dimensions of lexical knowledge: "(a) partial to precise knowledge, (b) depth of knowledge, and (c) receptive to productive use ability". According to her, the first two dimensions are related to word meaning and are considered knowledge continua. The third dimension can be considered as a control continuum rather than being considered a kind of knowledge.

Accordingly, it is clear that there is a consensus among lexical researchers that learning a word involves learning different aspects of knowledge. However, most vocabulary studies seem to

focus on the form-meaning link by testing it directly or indirectly (Laufer & Goldstein, 2004; Nation & Webb, 2011). Nation and Webb (2011, p.224) argue that focusing on the form-meaning link when measuring lexical knowledge “provides much better indication of the potential for understanding and using words than a single test of another aspect of vocabulary knowledge, such as spelling, pronunciation, grammatical functions and collocations”. Verspoor and Schmitt (2013) state that focusing on the link between the form of a word and meaning is fundamental and is considered the first and primary step in vocabulary learning.

Most, if not all, vocabulary measurement formats tend to focus on recall and recognition abilities (Nation & Webb, 2011; Read, 2000; Schmitt, 2010b). Recognition, according to Read (2000, p.155), is when “test-takers are presented with the target word and are asked to show that they understand its meaning, whereas in the case of recall they are provided with some stimulus designed to elicit the target word from memory”. Schmitt (2010a) believes that the central aspect in recognition is the ability to recognize the form of a target word whereas in recall it is to recall and produce the form of a target word.

The degree of lexical knowledge has also received considerable attention from vocabulary researchers. Two main levels of mastery have been proposed and discussed by many researchers: receptive (passive) and productive (active) knowledge of a word (e.g. Laufer & Goldstein, 2004; Nation, 2001; Schmitt, 2010a; Meara, 1990). The receptive level of mastery can simply be described as knowing the form and the meaning of a word while listening to or reading it (Nation, 2001; Schmitt, 2010b). On the other hand, the productive level of mastery is more advanced than the receptive mastery and it involves the ability to appropriately produce a word while attempting to convey a spoken or written message (Nation, 2001; Schmitt, 2010b).

However, many lexical researchers recently argue that the distinction between receptive and productive levels of mastery is not as simple as it may appear. For example, Read (2000) argues that different researchers have distinguished, in different ways, between receptive and productive and, as such, it might not be feasible to make a comparison between the two levels of mastery across studies. Also, a number of researchers claim that it is difficult to decide whether the distinction between receptive and productive knowledge is dichotomous or establishes a continuum (Laufer & Goldstein, 2004; Meara, 1990; Melka Teichroew, 1982). In the same vein, Schmitt (2010a) also confirms the existence of such confusion among lexical researchers and discusses the difficulty involved in distinguishing receptive from productive knowledge. To overcome this confusion, many attempts have been made to provide a clear distinction between receptive and productive knowledge (e.g. Meara, 1990; Melka, 1997; Laufer & Goldstein, 2004) but no agreement has been reached as to what each one of the two levels entails (Schmitt 2010a).

Having concluded that there is no consensus between lexical researchers on how the distinction between receptive (passive) and productive (active) knowledge should be established, nor on what each one of them entails, Schmitt (2010a. p. 89) stresses that “future research needs to be clearer about what facets of recognition/recall and receptive/productive mastery are being addressed in a study”. In this study, a proposed hierarchy by Laufer and Goldstein (2004) that clearly identifies four degrees of knowledge is adopted. The hierarchy was developed in an attempt to draw clear lines of distinction between passive (receptive) and active (productive) levels of mastery as well as recall and recognition abilities.

Laufer and Goldstein’s (2004) hierarchy contains four degrees of knowledge of meaning. These degrees of knowledge are grounded on two dichotomous distinctions: (1) “supplying the form for a given meaning versus supplying the meaning for a given form”, and (2) “being able to recall versus only being able to recognise (whether form or meaning)” (Laufer & Goldstein, 2004, pp. 405-406). Laufer and Goldstein have called the four degrees of knowledge: (1) active knowledge, (2) passive knowledge, (3) recall, and (4) recognition (Table 2).

Table 2: Degrees of vocabulary knowledge

	Recall	Recognition
Active (retrieval of form)	Supply the L2 word	Select the L2 word
Passive (retrieval of meaning)	Supply the L1 word	Select the L1 word

(Laufer & Goldstein 2004, p. 407).

Four bilingual tests can be used to measure these four degrees of knowledge of meaning. These are active recall, passive recall, active recognition and passive recognition. As an example, an English word and its Arabic equivalent will be used below to illustrate the four test formats, given to Arabic-speaking learners of English, (English *man* = Arabic رجل).

1. Active recall: m_____ رجل

Test-takers are provided with the Arabic word and are required to supply the English equivalent word.

2. Passive recall: man _____

Test-takers are provided with the English word and are required to supply the Arabic equivalent word.

3. Active recognition:

رجل

- a. boy b. man c. woman d. daughter

Test-takers are provided with the Arabic word and are asked to choose the correct English equivalent from the four given options.

4. Passive recognition:

man

- a. ولد b. رجل c. امرأة d. بنت

Test-takers are provided with the English word and are asked to choose the correct Arabic equivalent from the four given options.

Laufer and Goldstein (2004) have argued that the four tests can be arranged hierarchically to reflect the strength of knowledge. The strength of knowledge can be arranged to reflect the more advanced level of knowledge to the least advanced level of knowledge. It has been discussed by Laufer and Goldstein (2004) that retrieving the form of a word in the active recall and the passive recall tests is more difficult than retrieving the meaning in the active recognition and passive recognition tests. Also, the ability to recall the form or meaning indicates a better retention than recognition. Consequently, the ability to recall the form or meaning of a word reflects a more advanced level of knowledge than the ability to recognise its form or meaning from among given options. Based on this discussion, the active recall test is supposed to reflect the more advanced level of knowledge, while the passive recognition test reflects the least advanced level of knowledge. Regarding the remaining two tests, passive recall and active recognition, Laufer and Goldstein (2004) assume that passive recall is more difficult than active recognition (Table 3).

It can be argued that Laufer and Goldstein's (2004) four categories have clearly distinguished between active (productive) and passive (receptive), and recall and recognition. Schmitt (2010a, p.85) claims that the distinctions that have been made by Laufer and Goldstein (2004) "have given this particular meaning-form test format a standardised descriptor which can be consistently used". Moreover, he recommends that these distinctions should be considered even if these four categories will not be used. The major limitation of Laufer and Goldstein's categories, however, is that using translation tests might not be possible when participants have different L1 (Schmitt, 2010b).

Table 3: Four degrees of strength of knowledge

	Recall	Recognition
Active (retrieval of form)	(1) strongest	(2) or (3)
Passive (retrieval of meaning)	(2) or (3)	(4) weakest

(Laufer & Goldstein 2004, p. 408).

Finally, Schmitt (2010b, p. 37) clearly states that “it is not practically possible, and probably not desirable, to measure all word knowledge aspects in any particular study”. Accordingly, this research focuses on targeted words’ form-meaning relationship, which is the main component of vocabulary knowledge that deserves to receive considerable attention (Laufer & Goldstein, 2004; Nation, 2001; Schmitt, 2010b; Verspoor & Schmitt, 2013). It can be indicated that acquiring this level of knowledge would possibly enable the learners to comprehend an encountered word or use it in a basic, yet efficient, way in order to meet their needs (Schmitt, 2010a).

Also, this research adheres to Laufer and Goldstein’s categories and adopts the underlying distinctions between receptive (passive) and productive (active), and recall and recognition. It is believed that Laufer and Goldstein’s categories fit within the context and purpose of this research. The standardised descriptor they have given to the four bilingual form-meaning test formats make them reliable and comparable across studies (Schmitt, 2010b). The passive recall test format will be adopted and used in this research as one of the vocabulary measurements. Moreover, the major limitation mentioned earlier is not applicable to this research due to the fact that research participants have the same L1.

3.3 The Involvement Load Hypothesis

One of the earliest works that has served as the basic groundwork in highlighting the importance of engagement with vocabulary was the proposed Depth/Levels of Processing Hypothesis by Craik and Lockhart (1972). Craik and Lockhart’s (1972) hypothesis asserts that better vocabulary retention can be facilitated by giving more attention to targeted vocabulary items, and involving with them as much as possible. However, “feeling the need to translate and operationalise such general cognitive notions in terms of L2 vocabulary learning tasks” (Hulstijn & Laufer, 2001), this notion has been developed by Laufer and Hulstijn (2001). Consequently, they proposed the Involvement Load Hypothesis. The Involvement Load Hypothesis has three constituents: need, search and evaluation (Hulstijn & Laufer, 2001).

According to Hulstijn and Laufer (2001), the need component entails the requirement of certain knowledge or language feature about a word to accomplish a required task. In other words, it refers to the need to learn particular words to pass an exam or comprehend a passage. The need component serves as the motivational, non-cognitive aspect of involvement. It can be moderate or strong. Need is moderate when enforced by an external motivator and strong when motivated naturally or intrinsically. For example, the need is moderate when a learner is asked to use a word in a given activity by the teacher, and is strong when he/she decides to consult the meaning of a word in a dictionary during writing a composition.

Search and evaluation, on the other hand, are the cognitive aspects of involvement (Hulstijn & Laufer, 2001). Both of them are dependent on the given attention to form-meaning relationship (Schmitt, 2010b). The search component refers to finding information about an unknown word, such as consulting a dictionary to find the meaning of a new word. The evaluation component involves comparing the obtained word knowledge of the word with other words to check its suitability and usability in a given context. For example, comparing the different meanings of a word and then choosing the meaning that is suitable for the context of use. Evaluation can be strong or moderate. More specifically, evaluation is strong when a learner is required to make a decision. An example of this decision can be when a learner has to decide on how to use the recently learned word and combine it with other words to form a meaningful sentence. In contrast, evaluation is moderate when a learner is requested to recognise differences between words and meanings, such as in gap-filling tasks accompanied by a number of possible words.

According to Hulstijn and Laufer (2001), the involvement load of a task is constituted from combining the three above components with their degrees of prominence. Each of the three components can be present or absent when processing a lexical vocabulary item in artificially or naturally planned task activities. A useful example demonstrating how tasks vary in involvement load was provided:

“Consider an example of two tasks that vary in involvement load. In task one, the learner is asked to write original sentences with some new words and these words are translated or explained by the teacher. The task induces a moderate need (imposed by the teacher), no search (the words are glossed) and strong evaluation because the new words are evaluated against suitable collocations in learner-generated context. If we want to describe the task in terms of an involvement index, where absence of a factor is marked as 0, a moderate presence of a factor as 1, and a strong presence as 2, then the involvement index of the task is 3 (1 + 0 + 2). In task two, the student has to read a text and to answer comprehension questions. New words, which are relevant to the questions, are glossed. The task will induce a moderate need to look at the glosses (moderate because it is imposed by the task), but it will induce neither search nor evaluation. Its involvement index is 1. Hence, task one induces a greater involvement load than task two.”
(Hulstijn & Laufer, 2001)

Further elaboration on task involvement load can be elicited from the review of the empirical studies provided in the next section.

3.3.1 Empirical studies on the Involvement Load Hypothesis

To support their hypothesis, Laufer and Hulstijn (2001) reviewed a number of previous studies seeking empirical evidence for their hypothesis (Table 4). They also conducted two parallel experiments with EFL learners in two countries to empirically test their hypothesis and found some support (Hulstijn & Laufer, 2001). The aim of their study was to examine the relationship between incidentally acquired lexical items and the amount of task-induced involvement. In other words, they wanted to investigate whether the amount of involvement with vocabulary would lead to better retention of the incidentally acquired items or not. The researchers measured learners' short- and long-term vocabulary retention of ten unknown words using three learning tasks: (1) reading comprehension, (2) comprehension plus filling in gaps using target words, and (3) composition-writing with target words. The tasks entailed varied involvement load, in that the tasks respectively induced (1) moderate need, (2) moderate need and evaluation, and (3) moderate need and strong evaluation. Accordingly, the index of the first task was 1, the second task was 2 and the third task was 3.

Table 4: Relative effectiveness of vocabulary learning tasks

The more effective task	The less effective task	Study
Meaning selected from several options	Meaning explained by synonym	Hulstijn 1992
Meaning looked up in a dictionary	Reading with/without guessing	Knight 1994; Lupescu & Day 1993
Meaning looked up in a dictionary	Meaning provided in a marginal gloss	Hulstijn <i>et al.</i> 1996
Reading and a series of vocabulary exercises	Reading only (and inferring meaning)	Paribakht & Wesche, 1997
Meaning negotiated	Meaning not negotiated	Newton 1995
Negotiated input	Premodified input	Ellis <i>et al.</i> 1994
Used in original sentences	Used in non-original sentences	Joe 1995, 1998
Interactionally modified output	Interactionally modified input	Ellis & He 1999
Used in a composition (L1-L2 look up)	Encountered in a reading task (L2-L1 look up)	Hulstijn & Trompeter 1998
Reading, words looked up in a dictionary (self-imposed)	Reading only, words not looked up	Cho & Krashen 1994

(Laufer & Hulstijn, 2001)

The findings from Hulstijn and Laufer's (2001) study supported the assertions of the Involvement Load Hypothesis. They showed a relationship between the amount of the load of involvement and vocabulary retention. Vocabulary retention in the composition task was found to be the highest while the lowest was in the reading task, leaving the reading plus fill-in task in the middle. In addition, a number of empirical research studies have also been conducted by many researchers and good support for the hypothesis was found (e.g. Beal, 2007; Ghorbani &

Rahmandoost, 2012; Hill & Laufer, 2003; Jing & Jianbin, 2009; Keating, 2008; Pauwels, 2012; Tsubaki, 2007; Webb, 2005; Xu, 2010).

While Laufer and Hulstijn's (2001) hypothesis appears to be beneficial for material writers and language teachers to produce effective vocabulary learning materials and activities, there are two issues that need to be acknowledged. First, the learners who might be involved with their targeted vocabulary in a number of different ways are not fully taken into account (Schmitt, 2010b). For example, learners can be involved in social learning activities that increase the amount of interaction focused on lexical items (Nation, 2001). Second, there is a range of factors that are presumed to facilitate vocabulary learning which are as important as effective vocabulary learning tasks (Folse, 2006). An example of this is increased exposure to targeted vocabulary (Rott, 1999). The next section will refer to these factors and discuss how they would help learners to facilitate vocabulary gain and retention.

3.4 The notion of engagement with vocabulary

This section introduces learners' engagement. It has been organised in the following way. It begins by presenting learners' engagement definition, types and importance. It then goes on to review a number of relevant studies focusing on learners' engagement. Finally, it discusses engagement as a critical factor in vocabulary learning and acquisition.

3.4.1 Definition, types and importance of learner engagement

Various definitions of learner engagement are found in the literature. Hu and Kuh (2002, p.555) defined learner engagement as "the quality of effort students themselves devote to educationally purposeful activities that contribute directly to desired outcomes". This definition discounts the role of educational institutions and rests the majority of responsibility with learners (Coates, 2006). However, it was broadened by Kuh (2009) when he provided a compromise view that rests the responsibility with both learners and institutions. Accordingly, learner engagement has been defined by Kuh (2009, p.683) as "the time and effort students devote to activities that are empirically linked to desired outcomes of college *and* what institutions do to induce students to participate in these activities". In this research, teacher/institution and learners play key roles in promoting engagement with L2 targeted vocabulary.

Fredricks et al. (2004) have identified three types of engagement: behavioural, cognitive and emotional. Behavioural engagement, according to Fredricks et al. (2004, p.60), refers to "the idea of participation; it includes involvement in academic and social or extracurricular activities and is considered crucial for achieving positive academic outcomes". Emotional engagement

refers to learners' attitudes, including enjoyment, comfort, interest, anxiety and/or stressfulness (Fredricks et al., 2004; Trowler, 2010). Cognitive engagement refers to learners' "psychological investment in and effort directed towards learning, understanding, mastering the knowledge, skills or crafts that the academic work is intended to promote" (Newmann, et al., 1992, p. 12).

Social engagement was also identified, as a type of learner engagement, by a number of other researchers (Anderson & Dron, 2014; Liu, 2010; Pekrun & Linnenbrink-Garcia, 2012). It refers to "forms of social participation, such as working cohesively, respectfully, and supporting other students' learning" (Pekrun & Linnenbrink-Garcia, 2012). Research suggests that this type of engagement could be promoted through the use of web 2.0 technology and its social tools (Anderson & Dron, 2014).

There is a growing body of literature that recognises the importance of promoting learner engagement and how it impacts on learners' knowledge development and learning outcomes (Schmitt, 2008, 2010b; Kuh, 2009; Fredricks et al., 2004; Miller and Butler, 2011). Research has showed that the more engaged the learners are, the better their learning outcomes will be (Akbari et al., 2016). Accordingly, learners benefit immensely from being engaged with their targeted materials (Kuh, 2009). Further elaboration related to these issues can be elicited from the review of a number of previous studies outlined in the following section.

3.4.2 Studies on promoting learner engagement

Numerous studies have investigated issues related to promoting learners' engagement and how it impacts upon their learning outcomes and knowledge development (Coates, 2007; Dykstra Steinbrenner & Watson, 2015; Herrington et al., 2003; Janosz et al., 2008; Miller & Butler, 2011; Niu & Helms-Park, 2014; Sazant, 2014). These studies have examined the use of different methods, tools and learning activities to increase learners' engagement, such as promoting learners' engagement through using social networking tools (Junco et al., 2013), and a critical thinking methodology (Sazant, 2014). However, because the scope of the current research is primarily concerned with the adoption of mobile microblogging to promote learners' engagement; accordingly, this section will focus on studies with the same interest.

There is a large volume of published studies describing the impact of using different e-tools on learner engagement, including social networking applications (Akbari et al., 2016; Junco et al., 2013; Junco et al., 2011; Veletsianos & Navarrete, 2012; Welch & Bonnan-White, 2012; Woo et al., 2011; Yu et al., 2010). A fairly recent empirical study examined the impact of utilising social networks on EFL learners' engagement, motivation and learning (Akbari et al., 2016). It compared learning through the use of the social network of Facebook (the Facebook group) with the traditional face-to-face communication (the face-to-face group). The findings of the

study revealed that the Facebook group's outcomes, in terms of level of engagement and motivation, were higher than the other group.

In their study of using Twitter to increase learners' engagement, Welch and Bonnan-White (2012) have been able to show how promoting one type of learners' engagement can influence engagement. Specifically, their findings demonstrated that using Twitter had no significant effect on learners' engagement, except for the learners who enjoyed using it. In other words, the feelings of enjoyment impacted positively on the learners' emotional engagement. In the same vein, Woo et al. (2011) have investigated the effect of using wikis to engage EFL learners in collaborative writing activities, such as problem-solving, and how these, consequently, facilitated scaffolding. They concluded that the participants enjoyed working collectively with their peers, and that the use of this tool helped to improve their writing (Woo et al., 2011).

In another study, the effect of using Twitter on students' engagement and grades was investigated by Junco et al. (2011). The study was conducted with 125 undergraduate students who were enrolled in a pre-health professional majors' course. The participants were divided into two groups: experimental (70 students) and control (55 students) groups. The control group used Ning (a social networking tool) and the experimental used Twitter (a microblogging social networking tool). Twitter was adopted and implemented as part of the course to discuss various education-related topics. The study concluded that the levels of learners' engagement and scores in the experimental group were significantly higher than those in the control group. Moreover, the participating teachers were found to be highly engaged with the students. These findings show that students and teachers' engagement with Twitter offers ways that enhance students' engagement and, consequently, their achievements.

Two years later, however, Junco et al. (2013) conducted another related study to investigate the effect of using Twitter on student collaboration, success and learning outcomes. This time, they looked at the relationship between using Twitter as part of the course (as it was in their last study) or as an optional tool supporting the course. In other words, they attempted to find out whether using Twitter as part of the course rather than being optional would make a difference in relation to learners' engagement and scores or not. The learners were not directed in any way on how they should use Twitter, and it was left open to them to decide how to use Twitter for social learning collaboration. The Twitter feed used to be displayed once a week in the classroom that includes both experimental and control groups. However, little attention was given by the teacher to the displayed Twitter feed. No significant difference was found between the two groups in that both groups appeared to have similar levels of engagement and scores. Bringing together the findings from both studies, the researchers have identified three effective elements of integrating Twitter into college courses that can be considered best practice:

1. Requiring students to use Twitter as part of the course is important in affecting academic outcomes.
2. Twitter should be integrated into the course in educationally relevant ways.
3. Faculty engagement in the platform is essential in order to impact student outcomes (Junco et al., 2013).

3.4.3 Engagement as a critical factor in vocabulary acquisition and retention

“In essence, anything that leads to more and better engagement should improve vocabulary learning, and thus promoting engagement is the most fundamental task for teachers and materials writers, and indeed, learners themselves.” (Schmitt 2008, pp. 339-340).

It is commonly observed that the more exposure or engagement learners have with their targeted vocabulary items, the more likely they will learn them as well as be able to retain them (Fraik & Lockhart, 1972; Hulstijn & Laufer, 2001; Laufer & Hulstijn, 2001; Schmitt, 2008; Schmitt, 2010b). The notion of *engagement* with vocabulary was first proposed by Schmitt (2008) as a term that covers any kind of involvements learners might have with their targeted vocabulary. This notion takes into its account material writers, language teachers and the learners. According to Schmitt (2010b, p.28), engagement with vocabulary includes but might not be limited to:

- increased frequency of exposure
- increased attention focused on the lexical item
- increased noticing of the lexical item
- increased intention to learn the lexical item
- a requirement to learn the lexical item (by teacher, test, syllabus)
- a need to learn/use the lexical item (for task or for a personal goal)
- increased manipulation of the lexical item and its properties
- increased amount of time spent engaging with the lexical item
- amount of interaction spent on the lexical item.

A considerable amount of literature has been published on these issues to discuss how they could aid vocabulary learning and retention (Alhumood, 2007; Alothman, 2014; Folse, 2006; Hulstijn, 2001; Joe, 2010; Nation, 2001; Nation & Webb, 2011; Schmitt, 2010a). With regard to enhancing exposure and increasing frequency with vocabulary, Rott (1999) found greater vocabulary knowledge to be associated with the frequency of encounters. In other words, the more learners were exposed to new words, the better vocabulary knowledge they had. In a recent longitudinal case study, Joe (2010) investigated the effect of increased frequency with 20 targeted words. She concluded that effective vocabulary learning requires multiple exposures to unknown and partially known lexical items in tasks. The role of attention focused on lexical

items was also looked at by researchers in the field of vocabulary acquisition and retention. It has been empirically evidenced by a number of studies that learners' attention to lexical items throughout reading activities enhances L2 vocabulary acquisition (Hulstijn, 2001; Laufer & Shmueli, 1997; Mondria & Boer, 1991; Newton, 2001; Paribakht & Wesche, 1997; Wesche & Paribakht, 1996).

Many studies have discussed the positive impact of increased social interaction on cognitive development in general and vocabulary acquisition in particular (Lantolf & Thorne, 2007; Laufer, 2009; Newton, 2001; Niu & Helms-Park, 2014). In a study using a task-based approach to learning, Newton (2001) claims that encountering words while engaged in a task-based interaction, such as negotiating new words, reinforces vocabulary acquisition.

In summary, it has been shown from this review that the "important factor determining task effectiveness for vocabulary learning is the amount of word-related activity that the task induces" (Hill & Laufer, 2003). In general, any activities/tasks that could increase learners' engagement with vocabulary are presumed to aid acquisition and retention (Schmitt, 2008; Schmitt, 2010b).

3.4.4 Involvement and engagement in this research

Based on the discussion above, the notion of engagement with vocabulary (Schmitt, 2008) and the Involvement Load Hypothesis (Laufer & Hulstijn, 2001) serve as groundwork in this research. It can be argued, based on both of them, as well as the reviewed related studies, that engagement and load involvement of a task are critical factors in vocabulary learning and acquisition. The adoption of mobile microblogging and its social features as a learning tool (see chapter 2 for more details) into university language courses in an EFL context where learners have little chance to practise their language is expected to enhance the engagement of the learners with their targeted vocabulary items.

The experiment of this research was developed with the three components of the Involvement Load Hypothesis and the notion of engagement with vocabulary in mind (for more details see 4.7.3.2). To elaborate further, the needed words will be determined and employed in the experiment of this research. The meaning of each *needed* word will be *searched* by the learners. Then, *evaluation* takes place when the learner who reaches this step is expected to think and decide how to use the word appropriately in combination with other words he knows.

Involvement in this research refers to the participants' involvement in searching for a word's meanings through consulting (1) a dictionary, (2) classmates shared posts, and (3) both, a dictionary and classmates shared posts. Additionally, it refers to involvement in evaluating

recently learned words through observing them in the mobile microblogging tool and is involved with them through comparing (1) the learned meaning(s) of a word with its other meanings, (2) a recently learned word with other words to check its suitability and/or (3) usability in a given context.

Engagement with vocabulary in this research refers to any additional factor that increases the participants' engagement with their targeted words. These include increased (1) exposure, (2) amount of interaction, (3) attention focused on target words, as well as (4) extending the amount of time spent on targeted lexical items during the use of the mobile microblogging tool and task.

Behavioural engagement refers to the participants' engagement efforts and involvement in the mobile microblogging task. It is reflected in the current task by participating in the mobile microblogging activities. This incorporates accessing Twitter to read others' posts, and searching for and exchanging information related to the targeted vocabulary. Cognitive engagement refers to the participants' "psychological investment in and effort directed towards learning, understanding, mastering the knowledge, skills or crafts that the academic work is intended to promote" (Newmann et al., 1992). It is reflected in the current task by the efforts of the participants that are directed towards learning unknown words' meanings and usages. This involves "a comparison of a given word with other words, a specific meaning of a word with its other meanings, or combining the word with other words in order to assess whether a word (i.e. a form-meaning pair) does or does not fit its context" (Laufer & Hulstijn, 2001, p. 14).

Emotional engagement refers to the participants' positive or negative feelings, such as interest, enjoyment, happiness, nervousness, convenience and anger. It is reflected in the current task by the participants' positive feelings of interest, enjoyment, comfort, convenience and negative feelings of boredom or lack of interest. Social engagement refers to learning that involves social practices, such as interactions and group learning activities. It is reflected in the current task by the efforts made by the participants that are directed towards learning unknown words' meanings and usages by participating and interacting with others during the research intervention.

3.5 Sociocultural Theory

This research is situated within the Sociocultural Theory. Before discussing the application of this theory to the teaching and learning practices in this research, the theory and its main ideas and concepts will be introduced.

In recent years, there has been an increasing interest in Sociocultural Theory and its perspectives in the fields of second language learning and teaching as well as its influence on

face-to-face and technology-enhanced teaching and learning practices (Compernelle & Williams, 2011; Kitade, 2000; Mitchell et al., 2013). Sociocultural Theory originates from the early work of the famous Russian psychologist L. S. Vygotsky and his colleagues (Lantolf & Thorne, 2007). It argues that mental activity is a *mediated* process and thus *mediation* is considered a central notion to it (Lantolf, 2000; Lantolf & Thorne, 2007; Mitchell et al., 2013; Ratner, 2002).

According to Lantolf (2000), Vygotsky observes that human beings use tools and labour activity when they act on the physical world. Similarly, symbolic tools or signs are used to understand the world and to understand our own selves. Also, our relationships with others and with our own selves are regulated and mediated by those signs or symbolic tools. The physical tools could incorporate several visible tools, such as knives and hammers. Symbolic tools, on the other hand, could include several mental related thoughts, such as algebra, art, music and, especially, language. Moreover, Vygotsky assumes, as explained by Lantolf (2000), that both symbolic and physical tools are artefacts that are influenced and shaped by human culture. Those artefacts would be modified by each generation in accordance with their aspirations, needs and advancement before they would be transferred to the succeeding generation. The role of the psychologists, as believed by Vygotsky, “is to understand how human social and mental activity is organised through culturally constructed artifacts and social relationships” (Lantolf 2000, p. 80).

Mitchell et al. (2013) state that Sociocultural Theory sees language “as a ‘tool for thought’, or a means of mediation, in mental activity” (p.221). This can be explained by saying that language can be used for different activities. These activities include discussing possible steps to problem-solving, drawing people’s attention to previously unknown features in their surroundings, and practising or articulating new information with the intention of learning it (Mitchell et al., 2013; Turuk, 2008). Furthermore, Mitchell et al. (2013) state that it has been argued that our thinking, in return, could be shaped and influenced to a certain degree by the nature of the mental tools. To prove that, they have provided two examples. The first example is Olsen (1995) who discussed how humans’ ‘mental tools’ can change their thoughts and beliefs about a particular feature or phenomenon. He stated:

“The invention of writing system does two things at once. It provides a graphic means of communication, but, because it is then verbalized (i.e. read), it comes to be seen as a model of that verbalization. As scripts became more elaborate, they provided increasingly precise models of speech, of ‘what was said’. Thus, cultures developed a more precise criterion for deciding whether two utterances were ‘the same words’” (p.116).

It can be understood that people’s thoughts and understanding of the nature of language have been reshaped after the development of writing systems. People have been inspired by their ‘mental tools’ to break the language into small but categorised parts. Accordingly, the way we

look at and think of language (either in written or spoken formats) has been changed. After the invention of writing systems, our understanding of language has shifted from being holistic to being more particular and able to recognise the different components that constitute language, such as ‘letters’, ‘words’, ‘sentences’ or ‘phonemes’. In their second example, new features of the written formats of communication, which are different from the traditional ones, have evolved after the emergence of different computer and web applications, such as chatting and text messaging (Kitade, 2000; Mitchell et al., 2013; Thorne, 2000; Warschauer, 1997).

To sum up, with respect to L2 learning, language is viewed as a ‘tool for thought’ which can be used for social interaction (Mitchell et al., 2013). Social interaction, which incorporates different social activities, such as discussion, problem-solving and collaboration, is central to L2 cognitive development (Li, 2011; Mills, 2011). Social learning, therefore, relies on interaction and is seen, from the Sociocultural perspective, as a mediated process (Compernelle & Williams, 2011; Lantolf, J., 2000; Mitchell et al., 2013).

According to Lantolf and Appel (1994), social interaction functions as a tool to develop the learners’ cognition. That is, to solve a shared problem, the learners would be involved in discussions, share their knowledge and work collectively to reach a satisfying answer to their problem. In such a situation, learners with higher knowledge would share their knowledge with their classmates through social activities, such as discussion and negotiation. This indicates that social interaction plays a major role in cognitive development.

Receiving assistance and support from others in order to notice aspects necessary to solve problems through social interaction and social activities is referred to as scaffolding (Lantolf & Thorne, 2007; Li, 2011; Mitchell et al., 2013). Based on that, it can be understood that a cognitive change can happen as a result of scaffolding (Lantolf 2006). The distance between the first stage in which the learner’s knowledge is less than the knowledge of other social partners and the last stage in which the learner’s cognition has been developed is referred to as the Zone of Proximal Development (ZPD) (Lantolf, 2006; Sincero, 2011).

3.5.1 Scaffolding

Scaffolding is used in conjunction with the ZPD (Li, 2011). Wood et al. (1976) stated that scaffolding takes place when an “*expert* helps somebody who is less adult or less expert” (p.89). They described the process of scaffolding in problem-solving as a given assistance “that enables a child or novice to solve a problem, carry out a task or achieve a goal which would be beyond his unassisted efforts” (p. 90). Scaffolding, in educational contexts, can refer to the assistance and support provided by a teacher or another learner through social interaction to direct a

learner to notice important aspects or dimensions of knowledge that would help in solving a confronted problem (Lantolf & Thorne, 2007; Mitchell et al., 2013).

Wood et al. (1976, p. 98) have suggested that scaffolded assistance has a number of functions:

1. Recruitment, which refers to enlisting the learner's (the problem-solver's) interest in the task.
2. Reduction in degrees of freedom, which refer to simplifying the task.
3. Direction maintenance, which refers to encouraging the learner to pursue a particular objective.
4. Marking critical features and discrepancies between what the learner has produced and what he would recognise as a correct production.
5. Frustration control, which refers to controlling frustration during the task.
6. Demonstration, which refers to demonstrating idealised solutions to a task.

A considerable amount of research was conducted to examine issues related to employing different online as well as social network tools to scaffold learners (Joseph & Uther, 2009; Li, 2011; Palalas, 2012). Wallace (2010, p. 272) claims that “many of these tools have been developed to address knowledge building by scaffolding interactions in ways that make student thinking visible or focus students on metacognitive awareness”. In a broader sense, previous research into the area of scaffolding in e-learning aims to explore issues related to integrating educational technology in ways that foster scaffolding through which learners can provide and/or receive support that lead to cognitive development. Accordingly, facilitating social interaction to connect learners with one another and with authentic people as well as supporting group learning and collaborative activities through the use of different educational technology were the main issues in this area of research (Woo et al., 2011).

3.5.2 The Zone of Proximal Development (ZPD)

Vygotsky defined the Zone of Proximal Development as “the distance between the actual developmental level as determined by independent problem-solving and the level of potential development as determined through problem-solving under adult guidance or in collaboration with more capable peers” (Vygotsky, 1978, p.86). With respect to learners, the ZPD refers to the distance between the stage in which some aspect of knowledge is unknown and the stage in which the learner's cognition has been developed and what was unknown has become known (Lantolf, 2006; Sincero, 2011).

According to Lantolf and Thorne (2007), collaborative learning is seen as a key feature in the ZPD as it shapes and precedes cognitive development. In addition to being viewed as a model of

developmental process, the ZPD can be perceived as a theoretical tool that teachers and researchers can employ to better understand the characteristics of learners' abilities that appear in the early stages of development.

The ZPD has attracted the attention of many teachers and researchers for two reasons (Lantolf & Thorne, 2007). First, it is based on the concept of scaffolding, during which a learner's performance or understanding can be developed as a result of being assisted by a teacher or another learner. Second, the underlying concept of the ZPD which highlights that "assisted performance, and importantly the varying qualities of assistance needed for a particular individual to perform particular competencies, is often indicative of independent functioning in the future." (Lantolf 2006, p. 263).

3.5.3 Application to this research

From the Sociocultural Theory perspective, social interaction is fundamental and it plays a major role in cognitive development (Lantolf & Aljaafreh, 1995; Lantolf & Appel, 1994; Lantolf & Thorne, 2007; Mitchell et al., 2013). In the context of formal learning and teaching, social interaction usually takes place in the classroom when the students and their teachers are present. However, with the advent of web 2.0 technology, which enables social interaction to occur online (O'Reilly, 2005), it could be possible to extend the social interaction between the students and their teacher to take place outside the classroom. Twitter as a mobile microblogging tool is one of the web 2.0 technology tools that facilitate social interaction between its users (Carter, 2011). It is adopted in this research as a learning tool that facilitates social interaction between the students, while outside the classroom, to work collectively to learn vocabulary.

While the learners might learn vocabulary individually, "learning collaboratively with others, particularly in instructional settings, precedes and shapes development" (Lantolf & Thorne 2007, p, 207). The ZPD in this research can be referred to as the distance between the actual level of a student's targeted vocabulary knowledge as determined by independent vocabulary learning and the level of potential targeted vocabulary knowledge as determined through social interaction facilitated by the mobile microblogging tool and task, in collaboration with other more capable students. Twitter is expected to facilitate social interaction between the students outside the classroom and as a result would create opportunities for scaffolded help. Without using such technology, facilitating social interaction and creating opportunities for scaffolded help among the students while they are outside the classroom might not be possible.

Scaffolding in Twitter would refer to the assistance provided by an 'expert' learner to other classmate(s) to learn a targeted word within the ZPD. The expert learner in this case would be

either a learner who already knew the targeted word before (advanced learners) or a learner who has just learned the targeted word and is helping another student to learn the word. Also, scaffolding could refer to assistance obtained from exposure to authentic usages of targeted words in the Twittersphere. More specifically, a participant might be scaffolded by observing other classmates' tweets in which they include words' meanings, composed examples and/or liked authentic examples they found in the Twittersphere. Additionally, he might ask other classmates to help with a particular word. In such cases, scaffolding is not provided from the technology or Twitter per se but from the interaction that is facilitated by Twitter.

3.6 Summary

This chapter was concerned with vocabulary learning and the theoretical background of this research. It has started by introducing vocabulary learning and discussing the importance of vocabulary learning in language acquisition. The relationship between vocabulary knowledge and other aspects of language were highlighted based on previous research. After that, the approaches to vocabulary learning were presented and the effectiveness, advantages and limitations of these approaches were discussed. The chapter then talked about the aspects of vocabulary knowledge, with emphasis on the meaning-form relationship as the main component of vocabulary knowledge. Also, in relation to the aspects of vocabulary knowledge, the levels of mastery and different formats of measuring word knowledge were explored. The chapter then turned to introduce the Involvement Load Hypothesis and the notion of engagement with vocabulary followed by discussing their link with the current study. Finally, the Sociocultural Theory was introduced and discussed, focusing on its key features, (namely social interaction, scaffolding and the Zone of Proximal Development) and how they relate to the purpose of this research.

Chapter 4: Methodology

4.1 Introduction

This chapter is concerned with describing as well as justifying the methodology employed in this research. This research is a mixed-methods study comprising quantitative and qualitative approaches. However, it is predominantly qualitative. As has been established in the previous chapters, the current research aims to investigate the impact of using Twitter as a mobile microblogging tool on the learners' engagement with their L2 targeted vocabulary and thus on their learning development. It also seeks to examine the influence of the involvement load of the designed task on vocabulary gains and knowledge development. The key issues tackled in this research are: 1) the learners' perceptions of the adoption of the mobile microblogging tool to approach L2 targeted vocabulary learning; 2) the impact of this adoption on the learners' engagement; and 3) the impact of this engagement on learners' L2 vocabulary gains and knowledge development. All research components will be designed in relation to these key issues.

The chapter begins with presenting the research questions and then it details the steps undertaken to address them. These steps include a description of the research paradigm, research context, research design, participants and course selection, instrumentation and procedures of the implemented task.

4.2 Research questions

It is well established from a variety of studies (Franklin & Peng, 2008; Junco et al., 2011; Martin & Ertzberger, 2013), that using social networking tools in educationally relevant ways can (1) offer means to facilitate learning, (2) increase learners' engagement with their targeted materials and (3) impact learning outcomes positively (see 2.4 for more details). Also, numerous studies (Coates, 2007; Dykstra & Watson, 2015; Niu & Helms-Park, 2014; Schmitt, 2010b) put emphasis on the importance of promoting engagement and how it impacts upon learning outcomes and knowledge development (see 3.4 for more details). However, very little empirical research has focused on exploring the potential impact of using Twitter as a mobile microblogging tool combined with a designed vocabulary learning task to facilitate vocabulary learning, promote learners' engagement and involvement with their targeted words and enhance their gains and knowledge development.

Accordingly, the main interest of this study is to contribute to the understanding of the role of the adopted mobile microblogging tool and task in facilitating vocabulary learning, promoting engagement and involvement and enhancing vocabulary knowledge gains. This resulted in the formation of three main research questions to drive the research. Further sub-questions were also formed to address specific issues related to the first and last research questions. The research seeks to address the following questions:

1. How do EFL learners perceive the adoption of mobile microblogging to approach vocabulary learning?
 - a. What are their attitudes towards vocabulary learning before and after the research intervention?
 - b. What are their attitudes towards utilising a mobile microblogging tool to approach vocabulary learning before and after the research intervention?
 - c. How does mobile microblogging help EFL learners to approach vocabulary learning?
 - d. What challenges might be encountered?
2. How does the adoption of mobile microblogging increase EFL learners' engagement with vocabulary?
3. How does the adoption of mobile microblogging impact EFL learners' knowledge gains and development?
 - a. How do they perceive the impact of the adopted tool on their vocabulary gains and knowledge development?
 - b. Are the words that are engaged with learned better?
 - c. How does the involvement load of the task affect vocabulary development?

These research questions helped in guiding the current study to explore how using Twitter as a mobile microblogging tool combined with a vocabulary learning task that is designed based on the assertions of the notion of engagement (3.4.3 for more details) and how the Involvement Load Hypothesis can facilitate approaching L2 targeted words (see 3.3 for more details). The questions also assisted in directing the study towards examining the influence of using the combined mobile microblogging tool and task on learners' involvement and engagement with vocabulary and, consequently, their gains and knowledge development.

The first research question is concerned with exploring the attitudes and understanding the views of the participants about using the combined mobile microblogging tool and task to approach vocabulary learning. It also looks at potential challenges the participants might confront during their use of the adopted mobile microblogging tool and task. It is fundamental to gain in-depth insights about these issues as each of them would intrinsically influence participants' experiences and consequently, their attitudes and perceptions. The second research

question focuses on understanding and explaining the effect of using Twitter as a mobile microblogging tool combined with a designed vocabulary learning task on promoting participants' involvement and engagement with vocabulary. The last question looks at learners' vocabulary knowledge gains and development which are presumed to be affected by the potential increase in the levels of involvement and engagement resulted from using the combined mobile microblogging tool and task.

4.3 The research paradigms

Going beyond the methodological approaches (quantitative, qualitative and mixed-methods), this section intends to identify and discuss the underlying philosophies of the current research in relation to other research paradigms. The usefulness and importance of understanding, setting and adopting research paradigms that researchers need to bring into their studies have been highlighted by a number of researchers (Cohen et al., 2013; Creswell, 2013; Maxwell, 2012; Schulze & Smith, 2015; Stickler & Hampel, 2015). Research paradigms are concerned with pinpointing researchers' accepted (1) philosophical beliefs (e.g. ontology and epistemology) and (2) methodological choices and practices (i.e. how to address a research problem) (Creswell, 2013). Though a range of different research paradigms (e.g. positivism, post-positivism, interpretivism, critical theory, transformative/political and pragmatism) were presented in previous research (Creswell, 2013; Crotty, 1998; Guba & Lincoln, 1994; Maxwell, 2012), Patton (2008) stated that positivism and interpretivism are the primary ones.

Positivism is generally associated with quantitative research (Lichtman, 2006). It is "based on the rationalistic, empiricist philosophy" and the presumption that both natural and social worlds should be viewed and examined in the same manner (Mertens, 2014, p. 10). It holds the ontological assumption of "naïve realism" (Lincoln et al., 2011, p. 100) and the epistemological belief of objectivism (Crotty, 1998). That is, there is an objective reality to be empirically revealed by researchers (Lichtman, 2006; Stickler & Hampel, 2015). For a long time, positivism paradigm was viewed as the prominent and ideal one for research due to its standardised criteria that ensure the objectivity of researchers, place emphasis on the use of experimental design and valid measurement tools. However, it "falls short when applied to human behaviour" (Mertens, 2014). That is, as researchers, "we cannot be positive about our claims of knowledge when studying the behaviour and actions of humans" (Creswell, 2013). In more details, the underlying accepted beliefs of reality and objectivity, the type of data and methods used for data gathering capture what only can be observed outside and fail in understanding what is in the inside (e.g. beliefs, feelings) (Cohen et al., 2013).

Interpretivism, in contrast, is linked with qualitative research (Ormston et al., 2014). It holds the view that “individuals develop subjective meanings of their experiences—meanings directed toward certain objects or things” (Creswell, 2013). So, reality is not singular or in the surroundings waiting to be uncovered but is multiple and socially constructed (Hughes, 2010). In more detail, Interpretivists “place emphasis and value on human interpretation of the social world and the significance of both participants’ and investigator’s interpretations and understanding of the phenomenon being studied” (Ormston et al., 2014). However, this paradigm has been criticised. Specifically, this paradigm is based on subjective reality that is shaped by individuals’ interpretation of the social world which could raise issues of bias that could affect research validity and reliability (Johnson & Onwuegbuzie, 2004; Maxwell, 2012). Yet such concerns could be controlled and minimised “if research is conducted rigorously and according to ethical standards” (Stickler & Hampel, 2015).

In view of what has been mentioned so far, it is clear that positivism (quantitative) and interpretivism (qualitative) paradigms are different in a number of respects. In a broader sense, Leedy and Ormrod (2005, p. 94) described how quantitative and qualitative paradigms differ:

“In general, quantitative research is used to answer questions about relationships among measured variables with the purpose of explaining, predicting, and controlling phenomena. This approach is sometimes called the traditional, experimental, or positivist approach... In contrast, qualitative research is typically used to answer questions about the complex nature of phenomena, often with the purpose of describing and understanding the phenomena from the participants’ point of view. The qualitative approach is also referred to as the interpretative, constructivist, or post-positivist approach”.

Additionally, discussing differences between the two paradigms and designating the ideal one for research have been a subject of debate within the research community for a long time (Guba & Lincoln, 1994; Johnson & Onwuegbuzie, 2004). However, adopting research paradigm(s) within which research studies can be situated is to be decided by researchers based on a number of issues including their research areas, objectives, theories, questions to be studied and assumptions of the world (Johnson & Onwuegbuzie, 2004; Maxwell, 2012; Stickler & Hampel, 2015). Furthermore, rather than solely rely on one paradigm, it is possible to combine aspects of more than one paradigm providing this causes no compatibility issues to the research design (Maxwell, 2012; Stickler & Hampel, 2015).

In view of all that has been mentioned so far, this research is situated primarily within an interpretivist paradigm and values multiple perspectives. In more details, it accepts the fact that

learning is a complex social activity (see 3.5) and thus employs a mixed-methods approach with qualitative methods as primary and quantitative methods as supplementary to capture the complexities of the studied phenomenon. Using one research approach is not sufficient, as this research is concerned with exploring and examining meanings, understandings, views and subjective experiences of using the adopted tool and task before it moves on to measure participants' progress. Specifically, this study seeks to understand participants' views and experiences of using the adopted tool and task, gain in-depth insights into the role of the adopted tool and task on promoting engagement and involvement with L2 targeted vocabulary, and examine the potential impact on vocabulary gains and knowledge development.

Qualitative methods were used in this research to gain a detailed understanding of the participants' perceptions and attitudes towards using the adopted mobile microblogging tool and task to approach vocabulary learning. This involves (1) interacting with the participants using different qualitative instruments, such as semi-structured interviews, (2) understanding how the adopted tool and task helped the participants to approach vocabulary learning as well as (3) increased their engagement and involvement, (4) evaluating how the adopted tool and task can impact knowledge gain and learning outcomes and (5) gaining information about the context of the adopted mobile microblogging tool.

Quantitative methods were also adopted in this research to assist with five tasks. First, prior to commencing the research intervention, to collect participants' biodata information, to identify their English language level and measure their vocabulary knowledge of the most frequent 10,000 words (see 4.5). Second, to measure participants' vocabulary knowledge development before and after the research intervention using the VKS (see 4.6.5). Third, to measure participants' attitudes before and after the research intervention (see 4.6.3). Fourth, to measure participants' activity in the Twittersphere (see 4.6.6). Finally, to correlate the relationship between participants' vocabulary knowledge development as reflected by the VKS results (see 5.3.3.2) and their levels of involvement and engagement as reflected by Twitter activity measurement (see 5.3.4).

4.4 Research context

The context selected to conduct the present research was Taibah University, Saudi Arabia. Seven factors, the researcher would argue, have made this research context suitable to investigate how effective the adoption of the mobile microblogging can be. These are: 1) the students' need to learn L2 vocabulary; 2) the Saudi Ministry of Higher Education's support for e-learning; 3) the popularity of Twitter for mobile microblogging in Saudi Arabia; 4) the popularity of Twitter as a medium of communication within Taibah University; 5) the

popularity of connected mobile devices, 6) the availability of the required technology and 7) the researcher's familiarity with the context. Further details regarding each factor are provided below.

1. The students' need to learn L2 vocabulary: this research considers facilitating L2 vocabulary learning for first year university students in EFL contexts. The students in the current chosen context need to learn many L2 words in order to progress and pass each university course. Many studies have revealed that the students in the chosen context, as well as other similar contexts, appear to face difficulty dealing with the target vocabulary (Akin & Seferoğlu, 2004; Albousaif, 2011; Meara, 1980). The difficulties confronting vocabulary learners can be attributed to a variety of reasons, such as lack of exposure (Brent & Siskind, 2001; Lu, 2008; Schmitt, 2008), teacher-centredness (Alqahtani, 2011), lack of language use and practice (Ansari, 2012; Hamouda, 2013), lack of guidance and advice (Abdellah, 2013) and limited classroom time (Abdan, 1991; El-Sadig, 2012). Thus, it was hypothesised that promoting learners' engagement via the adoption of the mobile microblogging can afford ways to help the students cope with some of their difficulties when learning vocabulary as discussed in chapter 2.
2. The Ministry of Higher Education support for e-learning: as mentioned in chapter one, the ministry of higher education in Saudi Arabia emphasises the use of e-learning in all Saudi universities. It also encourages the Saudi universities and their staff to implement useful technologies in their classrooms (Alzahrani, 2013; MOHE, 2010). This includes the support provided by The National Centre for E-learning and Distance Education to universities, staff and students. This governmental support has spurred many researchers to investigate the feasibility of utilising different educational technologies as well as work on developing technology-assisted teaching and learning practices inside and outside language classrooms (Al-Jarf, 2007; Alnujaidi, 2008; AlShammari, 2007; Altameem, 2011; Chanchary & Islam, 2011; Nassuora, 2012; Seliaman & Al-Turki, 2012).
3. The popularity of Twitter in Saudi Arabia: Twitter, of all social networks, is the fastest-growing social network in the world (Mari, 2013). It is extensively spread in Saudi Arabia which is ranked by Twitter.com to be among the countries with the highest penetration rate worldwide since 2012 (The Social Clinic Editorial Team, 2013a; The Social Clinic Editorial Team, 2013b; The Social Clinic Editorial Team, 2013c). There are more than 5 million active Twitter users in Saudi Arabia (The Social Clinic Editorial Team, 2013c). This number does not include all Twitter users in the country, as 'active Twitter users' refers only to the users who tweet and excludes those who only access the service (The Social Clinic Editorial Team, 2013b). Moreover, Al-Rakaf (2014) has investigated Twitter usage by the Saudi users and in his conclusion he described Twitter as the 'artery of life' for most of the social network users.

This was justified as Twitter has become fundamental and irreplaceable for most Twitter users in Saudi Arabia. In addition, he has reported that 65% of Saudi Twitter users log on to Twitter on an hourly basis. Furthermore, he has found that the ages of the users who use Twitter the most are between 21 and 41 years old, and most of them are university and high school students.

4. The popularity of Twitter as a medium of communication within Taibah University: Twitter is commonly used at Taibah University by the administration, staff and students. In 2012, the rector of the university started the use of Twitter to hear from and respond to the local public, employees, staff and students. His initiative encouraged some deans and heads of departments to have their own Twitter account to hear from students and respond to their queries. Also, many teachers at the university have started to use Twitter to post announcements and communicate with their students and vice versa. Based on the researcher's observation of the Twitter accounts of the university rector, some deans and heads of department, it has been noticed that many students have been inclined to use Twitter to communicate with the university. At the time of writing this part of the thesis, the number of tweets posted by the university rector has reached 11,724, and the number of his followers has reached 74,033. All of the above reflect the status of using Twitter at the university during the two academic years 2012-2013 and 2013-2014.
5. The popularity of connected mobile devices: more than two thirds (73%) of the Saudi population owns a smartphone, according to a survey conducted in 2014 by OurMobilePlanet. This percentage goes higher (to 84%) when the age group is limited to 18 to 24. This indicates that smartphones are widespread among Saudi university students whose age group usually ranges between 18 and 24 years old. Moreover, the report shows that 87% of mobile device users rely on their mobile devices to access the internet. This agrees with Jiffry (2013) who stated that people in Saudi Arabia depend greatly on their mobile devices for their daily chores. It is presumed that mobile users might find using their mobile devices to access the internet more convenient than using their personal computers.
6. The availability of the required technologies: based on the researcher's observation, most of the university students in this research context have their own Twitter accounts that they use on a daily basis. Even those who did not have their own Twitter accounts, and wished to take part in this study, can easily join Twitter at no cost if they decide to do so. Moreover, it was anticipated that the students usually carry their own mobile devices in their pockets most of the time. These assumptions were not based on the previous explanation only but on the researcher's knowledge of the context and his experience of teaching at Taibah University over the last few years. Thus, Twitter and mobile devices that were used during the implementation of this research are apparently available with most of the students or potential participants.

7. The researcher's familiarity with the context: the researcher has taught at Taibah University for five years, from 2005 to 2008 and from 2009 to 2011. This made his knowledge of and familiarity with the context an advantage, as these were expected to save time and accelerate the process of data collection. Also, as many staff members in that community already know the researcher, his presence would be more willingly accepted than a researcher new to them. Moreover, the researcher could work during the period of data collection as an assistant to the teacher of the course chosen for the implementation of this research. This helped to initially meet the participants and then stay in contact with them during the research.

4.5 Participants and course selection

Any student studying English language in his first year at university level was qualified to participate in the current research. However, it was difficult to recruit all eligible students in the research context due to their large number as well as difficulty with the administration of the university. Therefore, selecting a representative sample of the entire population was the best option. Using a convenience sampling method, two groups containing 39 male students were selected. The reason for selecting these two groups was that they were taught by the same teacher who gave his permission to the researcher to carry out the investigation. While selecting more groups of students would be better in terms of providing richer data, this was not feasible due to time limitations and the researcher working singly.

Prior to commencing the research intervention, biodata information was collected from the participants. This helped to identify the age of the participants ($n=32$) as well as explore their previous language education, smartphone and Twitter account ownership. The results showed that the age of the participants ranged from 18 to 26; this was distributed over three groups, 18-20 (69%), 21-23 (28%) and 24-26 (3%). Regarding the participants' ownership of smartphones, the result showed that only one student did not own a smartphone. More than half of the participants' smartphones were connected to the internet most of the time. They usually use their smartphones for at least one to two hours a day. Their knowledge of using smartphones was declared to be at least average. With respect to Twitter account ownership, only two students were found to have no Twitter accounts. However, they expressed their willingness to create accounts and take part in the study. More than half of the participants declared that they access Twitter at least once a day; 91% of them had never used Twitter for learning.

With regard to their previous language education, English was studied for at least six years by 91% of them and nine years by 9% before attending the university. This indicated that most of them had a similar amount of formal language instruction during their tertiary education. Additionally, the participants were asked to take the EF (Education First) Cambridge English

level test that was developed by Cambridge English Language Assessment. The test was computer adaptive so the participants were able to access it from their computers or connected smart phones. The test has two versions, 25 questions with an additional five audio questions and 20 questions without audio questions. The participants were asked to complete the second version only. The test had no time limit but when it was piloted, it was found that it took a shorter time than expected. The participants were provided with their results once they completed the last question. The test results were provided in accordance with the Common European Framework of Reference. The purpose of conducting this language level test was to find out and identify the participants' language level in general. Only 28 of the participants completed the EF Standard English Test and this showed that the lowest score was 30%, the highest 85% and the average 54%. These indicated that on average the participants' language level was upper intermediate.

Additionally, the participants' vocabulary knowledge of the most frequent first 10,000 words was also measured using Al-Masrai's (2009) XK_Lex vocabulary size test. The purpose of conducting this vocabulary size test was to have an idea about the of learners' vocabulary. Only 37 of the participants completed the XK_Lex vocabulary size and the results demonstrated that the average score of their vocabulary size was 3,684 (n=37).

The participants of this research were required to take four English classes: reading, listening and speaking, writing and grammar. It was necessary to select one of those courses to conduct the investigation of this research. In addition, the selection of the course had to be done carefully to ensure the suitability and compatibility with the focus of this investigation. The Reading II course was selected, as focusing on vocabulary building was among the highlighted practices of its course book. This focus on vocabulary corresponds with the focus of the investigation of this research.

4.6 Research instruments

It is fundamental to choose appropriate research instruments in order to gain representative and trustworthy data that would best answer the research questions. "Research instruments are simply devices for obtaining information relevant to your research project, and there are many alternatives from which to choose" (Wilkinson & Birmingham, 2003, p. 3). However, as indicated in previous research (Cohen et al., 2013; Lewis & Nicholls, 2014; Wilkinson & Birmingham, 2003), selecting research instruments needs to be based on a number of factors. In more detail, Niell (2004) suggested that selected instruments in any research need to match its objectives as well as to be appropriate for the participants in terms of length and complexity.

In view of that, a number of research instruments were carefully chosen and/or designed with the aim of providing meaningful and comprehensive findings. The main instruments to be used in this research were questionnaires, the Vocabulary Knowledge Scale (VKS), interviews, focus groups, weekly reports and Twitter interactions. Two additional instruments were used as well. These were a research diary and an interview with the participants' teacher. While alternative possible research instruments that could provide interesting and rich data were available, they were not selected in this research due to their mismatch with the objective of the current research. For example, social network analysis (SNA), which is compatible with the setting of the current study, was not selected due to the fact that it provides data that contributes nothing to the research questions. The following sections will describe and discuss each of the selected research instruments.

4.6.1 Interviews

Interview, as a research instrument, can be described as a purposive conversation that occurs between researchers and their research subjects to obtain information from the interviewees about how they feel, behave, think, believe and/or gain an understanding of their personal views and opinions about a particular experience (Brinkmann, 2013; Brinkmann & Kvale, 2014; Cohen et al., 2013; Heigham & Croker, 2009). A clear and good definition for 'interview' has been suggested by Stewart (2007, p.1) as "an interactional communication process between two parties, at least one of whom has a predetermined and serious purpose that involves the asking and answering of questions".

The interview, which is employed by many researchers, is considered among the most powerful and effective instruments for data collection (Cohen et al., 2013; Fontana & Prokos, 2007). It facilitates gaining in-depth information from respondents in a way that is challenging to attain from some other research instruments, such as questionnaires or observation. Thus, it is common among researchers in the area of Applied Linguistics to use the interview technique to collect data related to their investigations.

A number of authors have suggested different types of interview. According to Cohen et al. (2013, p. 412), "the number of types of interview given is frequently a function of the sources one reads!", and therefore, this research will only discuss the three main types of interview, structured, open/unstructured and semi-structured interviews (Heigham & Croker, 2009; Miller & Brewer, 2003), as they fit the purpose of this research.

All the three types of interviews share the same main goal of gathering data related to research investigations. However, the three types differ in the way of asking and answering the questions. In the structured interview, the researcher usually asks a number of predetermined

questions that have a limited set of possible answers from which the interviewees respond (Fontana & Prokos, 2007). At the opposite end of the scale is the unstructured/open interview, where neither questions nor answers are prearranged (Vogt et al., 2012). This type can cover informal interviews or brief interactions with an interviewee.

The third type of interview is the semi-structured interview. This type can be described as the mid-positioned type between the above-mentioned two types, or as referred to by Dörnyei (2007, p.136) as a 'compromise'. This can be justified as the semi-structured interview adopts the flexibility of the unstructured/open interview allowing free responses and the requirement for predetermined but flexible questions, not fixed questions as is the case in the structured interview. According to Heigham and Croker (2009), amongst the three types of interview, the third type of interview is the most commonly used one. This wide spread can be credited to the flexibility that is characteristic of the semi-structured interview.

Morse and Field (1996, p.76) have stated that "the semi-structured interview is used when the researcher knows most of the questions to ask but cannot predict the answers". Gillham (2005) has described the overall arrangement of the semi-structured interview. In the first instance, the interviewer initiates a conversation with the interviewee using the prearranged questions, one by one. Then, the interviewee responds to each question freely and describe his experience, feelings or beliefs in his own words. Some of the given responses might generate more questions that can then be asked. In addition, the researcher might ask for more or specific details about issues raised during the interview. Consequently, it can be argued that the practicalities of the semi-structured interview and its functionality to fit the purpose of this research were not unnoticed.

In this research, post-intervention semi-structured interviews were conducted with 22 students who were randomly selected. Randomisation helps in avoiding sampling bias as well as ensuring that all of the candidates have similar chances to be recruited in the research (Cohen et al., 2013; Lunsford & Lunsford, 1995). It can be assumed that the method applied to select the interviewees was traditional. The names of all the students (39 students) were written on papers and then folded to hide the names. The researcher mixed the papers and then picked four names on a daily basis for one week. An invitation was sent via text message to each student whose name was picked. The invitation included information about the location, the time and the expected duration of the interview. It can be pointed out that some of the invited students asked for different times and this was catered for.

The interviews were conducted in a small and comfortable room that was used for group meetings at the university. The room was suitable for conducting the interviews and easy to reach. Each interview was audio-recorded using iPhone 5 as the main recording device and iPad

mini as a backup device. Each participant was reminded that any recorded information he provided would be kept confidential and stored safely. The average duration of each interview was 16 to 19 minutes.

The interview was prepared with a set of predetermined questions (Appendix D). The questions were organised to start with the general ones, then on to the specific ones. Nevertheless, depending on the situation of each interview, the order of the questions or the wording might have been altered. The preparation and predetermination for the issues to be covered in the interviews was needed so that comparisons between the participants could be made.

The interviews were used to gain in-depth information about the learners' perceptions regarding the adoption of the mobile microblogging tool and task to approach vocabulary learning. They also reflected how this adoption helped in promoting their engagement and thus impacted their vocabulary gains and knowledge development. Moreover, they provided an opportunity for the interviewer to discuss the participants' comments and explore interesting issues they might have experienced during the course of the research. In addition, the interviews provided both the researcher and the participants with an opportunity to elaborate and talk about some of the post-intervention questionnaire's items in more details. It can be argued that the flexibility this approach had provided to both the researcher and the interviewees facilitated the gathering of the required information. In addition, the freedom given to the participants to respond and describe their experiences, in their own words, was very practical and useful. The data provided by these interviews will be used to partially answer all research questions (Table 7).

In addition to the interviews with the participants, an informal interview was conducted with the teacher who was officially responsible for teaching the participants when they come to their regular class. The teacher was not initially targeted to participate in the research as he was not involved in the weekly mobile microblogging task. However, a number of issues related to the participants' in-class behaviours were raised in the interviews with the participants and this subsequently urged the researcher to interview their teacher in an attempt to gain insight into the dynamic of the classroom during the period of the research intervention; a thing that might corroborate the participants' responses and assure the researcher about their perspectives.

4.6.2 Focus groups

The use of this method for data collection is increasing in educational research (Cohen et al., 2013). Morgan (1996) has defined a focus group as "a research technique that collects data through group interaction on a topic determined by the researcher" (p.130). A more detailed description of the focus group was given by Litosseliti (2003, p.1) as "small structured groups

with selected participants, normally led by a moderator. They are set up in order to explore specific topics, and individuals' views and experiences, through group interaction".

Gibbs (1997) has stated that a focus group is a useful method that can be employed to gather data that might not be feasible when using other research instruments. This can be explained as the "focus group can provide insight on multiple and different views and on the dynamics of interaction within a group of context, such as consensus, disagreement and power differences among participants" (Litosseliti 2003, p.16).

Accordingly, it can be argued that this research used the focus group method to gather data with the hope of shedding light on different dimensions related to this research, experimental intervention in general and about the impact of utilising the adopted mobile microblogging to approach as well as to engage with vocabulary learning. Also, as Fontana and Prokos (2007) have mentioned about the advantages of the focus group, the conducted focus group helped to interview more participants in less time than meeting each one individually. More importantly, having a number of participants on one table discussing the same topic helped to stimulate the participants' thinking and aided them in recalling more details related to the discussed issues.

Two focus group interviews were conducted with two groups of the participants. The number of the participants in the first focus group was five and it was seven in the second one. In order to collect data from as many participants as possible, the students who took part in the focus groups were different to those who were interviewed before. The participants in both focus groups were asked to talk about their experience of using the mobile microblogging tool and task to approach their vocabulary learning. The researcher participated as the moderator in the focus groups. Both focus groups were recorded using an iPhone 5 as the main recording device and iPad mini as a backup device. Each of the focus groups lasted for around one hour. In both focus groups, the participants were allowed to debate, discuss, negotiate or try to support their opinions as they preferred, as long as they were focusing on the topic and respecting others' views. The data provided by these focus group interviews will be used to partially answer all research questions (Table 7).

4.6.3 Questionnaires

A questionnaire can be described as a written instrument that contains statements and/or questions to which research subjects are expected to react either by choosing from among given answers and/or by writing their answers (Brown, 2001). Questionnaires have some characteristics that make them ideal to use by researchers in order to collect certain types of data. Wilson and McLean (1994, cited in Cohen et al., 2013, p. 377) stated that "the questionnaire is a widely used and useful instrument for collecting survey information,

providing structured, often numerical data, being able to be administered without the presence of the researcher, and often being comparatively straightforward to analyse”. Moreover, as pointed out by Dörnyei and Taguchi (2010), questionnaires can be utilised to reach a large number of people and to collect a huge amount of information in a very short time. Furthermore, a questionnaire can be characterised as a multipurpose instrument that can be employed with different groups of people for a variety of reasons in different situations (Dörnyei & Taguchi, 2010).

In contrast, it is important for researchers to be careful and not to consider questionnaires as perfect instruments that they always can choose. In fact, questionnaires have some disadvantages that might in some cases end up with artificial and/or possibly superficial data (Rubin & Babbie, 2010). These disadvantages are related to the questionnaire design, respondents and data obtained from it. Ambiguous questions or unclear instructions might mislead respondents and affect their answers. Questionnaire respondents might not be motivated to respond to the given questionnaire or they might not provide adequate answers to its items or select some answers blindly. Similarly, if the questionnaire is too long, the respondents might prefer not to complete it. Consequently, in some cases, the data collected might not provide trustworthy findings (Dörnyei & Taguchi, 2010; Rubin & Babbie, 2010).

In the present research, pre- and post-questionnaires (Appendices, A and B) were administered before and after the research intervention. It is important to reiterate that the questionnaires were used to be complementary with other instruments, e.g. interviews and focus groups. The final versions of the questionnaires were uploaded to qualtrics.com and administered as online questionnaires. Qualtrics.com supports the Arabic Language and allows respondents to switch between English and Arabic languages as preferred.

The questionnaires were developed carefully through six steps to ensure that using them would be effective and provide representative and trustworthy data. First, items that fit with the purpose of this research were adopted from previous related studies (Altiner, 2011; Deng, 2010; Fozdar & Kumar, 2007; Liu et al., 2010; Ranalli, 2009). Second, some of the adopted items were adapted to fit with the context of the research. Third, additional items were added to cover missing issues. Fourth, the questionnaires were translated to Arabic to avoid misinterpretation by the respondents, which could lead to choosing a wrong answer. Fifth, copies of the questionnaires were given to four persons including two language learners and two PhD students majoring in Applied Linguistics to review and highlight any problematic issues, such as typos, grammatical mistakes or lack of clarity of the items and presentation. Sixth, the questionnaires were piloted with four students from another Saudi university, and then necessary changes and modifications were made.

The pre-questionnaire contained four sections. The first section was developed to gather biodata information including previous language education, mobile and Twitter account ownership, previous experience of learning via mobile microblogging and knowledge of using mobile devices and Twitter. The remaining sections were developed to measure the learners' attitudes towards (a) vocabulary learning (13 items), (b) mobile learning (18 items) and (c) using Twitter for learning (24 items). The sections were followed by an open-ended question that allows the respondents to provide any additional related information.

The post-questionnaire was a modified version of the pre-questionnaire. The first section of it was omitted as all required biodata information had already been obtained and there was no need to collect the same data again. Similarly, all items that were not comparable were removed as keeping them in the post-questionnaire was not useful. The remaining items were modified in terms of the tense where necessary. In addition, a new section (18 items) was added to obtain data about the participants' perceptions regarding their experience of using the mobile microblogging tool and task to approach their vocabulary learning. Including these items in the pre-questionnaire was not possible due to the fact that they refer specifically to the intervention and its activities.

The biodata information gathered was used to describe the research participants in 4.5. The data gathered from the questionnaires will be used to (1) compare the participants' attitudes before and after the research intervention and (2) measure their perceptions regarding the adoption of the mobile microblogging tool and task to approach their vocabulary learning. The findings from the questionnaires will be used to partially answer the first research question (Table 7).

4.6.4 Weekly reports

The participants were asked to fill in a weekly report (Appendix E). The report contained two sections. In the first one, the participants were asked to respond to one questionnaire item to declare whether they have used the mobile microblogging tool and task to approach their vocabulary learning or not. This was necessary as knowing about the use of some of the mobile microblogging learning activities was not possible without the learners' declarations. For example, knowledge of the learners who used the mobile microblogging tool to read others' posts was not possible without explicitly asking them.

The second section of the report was an empty space in which they were asked to write any reflection, comments, suggestions or concerns related to using the adopted MM for vocabulary learning. It was anticipated that providing the participants with such space to reflect, comment or express their related ideas would provide interesting and valuable data. Also, asking the participants to provide any information on a weekly basis is more practical than waiting until

the end of the intervention as some information might then be forgotten and not reported. The data provided by the weekly reports were used to partially answer the first question (Table 7).

4.6.5 Vocabulary measurement

When conducting an empirical study, such as the current one, it is essential to first identify the aspects of word knowledge to be measured (e.g. form-meaning link) and the level of mastery to be focused on (recognition/receptive versus recall/productive) (Nation & Webb, 2011; Schmitt, 2010b). Once the level of mastery and the aspect of word knowledge to be focused on have been identified, deciding the best measurement test has to be done. Schmitt (2010a, p. 267) has emphasised that “it is probably better to find an existing test format to use, rather than developing a new one as this is time-consuming and requires considerable expertise as well”.

This research focuses on the form-meaning link and both levels of mastery, recognition/receptive and recall/productive. Therefore, it adopted the Vocabulary Knowledge Scale (VKS) that was designed and introduced by Wesche and Paribakht (1996) to measure the participants’ knowledge of the targeted vocabulary items. The VKS was described as “the best known and most widely-used depth-of-knowledge scale” (Schmitt, 2010b). This view about the VKS is supported by Nation and Webb (2011, p.228) who stated that the VKS “is the best-known example of a scale designed to measure depth of knowledge”. According to Wesche and Paribakht (personal communication with Schmitt, cited in Schmitt 2010b), the VKS was designed to capture five different levels of self-report knowledge of particular vocabulary items. This helps to track certain changes in learners’ receptive and early productive knowledge of particular vocabulary targeted items resulting from experimental intervention or activities, and in comparing the level of vocabulary knowledge resulting from different interventions.

According to Wesche and Paribakht (1996), the VKS can be used in research studies to demonstrate initial recognition of targeted words. The use of it as a research instrument allows scoring the knowledge of particular targeted words on a scale from 1 to 5 (Nation & Webb, 2011; Paribakht & Wesche, 1997; Schmitt, 2010b). According to Schmitt (2010), the five categories of the VKS can identify different levels of knowledge, ranging from total unfamiliarity through recognition to initial ability to produce the targeted word in a sentence (Table 5). Paribakht and Wesche (1997) have also proposed a separate Scoring Scale that can be used to score the VKS scale. The possible score for each item ranges from 2 to 5 depending on the quality of the provided translation, synonym or sentence example (Table 6).

In this research, the VKS (Appendix C) was used before and after the research intervention, the pre-VKS and the post-VKS. The pre-VKS was used to determine the participants’ pre-existing vocabulary knowledge of the targeted words. As explained earlier, the VKS can identify

different levels of knowledge, ranging from total unfamiliarity through recognition to initial ability to produce the targeted word in a sentence. With regard to demonstrating the pre-existing knowledge of the selected targeted words, the VKS helped to classify the words based on its five categories. The classification helped to decide what words can be included in the research intervention and what words cannot. In other words, words that were unknown to the majority of the participants were included and known ones were excluded (see section 4.7.2 for more details). The rationale behind such a process was two-fold. First, teaching words that were known to the participants would not make any sense and would rather be considered a waste of time (Schmitt, 2010b). Second, comparing the learners' vocabulary knowledge of words they already know after the research intervention is presumed to be invalid and thus provides worthless results.

Table 5: The Vocabulary Knowledge Scale

Self-report categories
I. I don't remember having seen this word before.
II. I have seen this word before, but I don't know what it means.
III. I have seen this word before, and I <i>think</i> it means. (synonym or translation)
IV. I <i>know</i> this word. It means _____. (synonym or translation)
V. I can use this word in a sentence: _____. (If you do this section, please also do section IV)

(Wesche and Paribakht, 1996, p.30).

To measure the vocabulary gains as well as to track changes in their knowledge of the given items, the participants were asked to respond to the post-VKS at the end of each weekly mobile microblogging task. The results of this test should provide data that can be compared with that of the pre-VKS and thus indicate how the adoption of the mobile microblogging tool and task can improve vocabulary learning.

It can be summarised that the pre-VKS test was used to check learners pre-existing knowledge and the post-VKS test was used to check participants' gained vocabulary and knowledge development after the intervention. Due to the fact that both measurements used the same test format, comparison between the two VKS tests' results could be made. The findings of such a comparison could yield valuable information that might help with answering the third research question.

Table 6: The Vocabulary Knowledge Scoring Scale

Self-report categories	Possible Scores	Meaning of Scores
I.	1	The word is not familiar at all.
II.	2	The word is familiar but its meaning is not known.
III.	3	A correct synonym or translation is given.
IV.	4	The word is used with semantic appropriateness in a sentence.
V.	5	The word is used with semantic appropriateness and grammatical accuracy in a sentence.

(Wesche and Paribakht, 1996, p.30).

4.6.6 Twitter activity measurement

This research focuses on exploring the potential of utilising Twitter as a mobile microblogging tool and task to involve and engage the learners with their targeted vocabulary. It was, therefore, useful to consider measuring the amount of the learners' involvement and engagement with their targeted words. To achieve this, the learners' posts during the mobile microblogging intervention were traced and saved. These posts were presumed to reflect the learners' involvement and engagement with their targeted vocabulary. In other words, they demonstrated how the learners acted to deal with the words they needed to learn. For example, the post that contained words' meanings, translations or definitions reflected the learners' efforts directed towards understanding and learning the form-meaning relationships. However, the posts contained the learners' composed sentences in which they used recently learned words reflected greater efforts directed towards the acquisition of the words.

The measurement and analysis of the posts went through three stages. The first stage was concerned with counting the total number of the learners' posts regardless of their contents. The second stage was concerned with evaluating the contents of the posts based on their contents and purposes of posting. It is important to explain that evaluating a post refers to judging its content in order to identify the purpose/s of posting it in accordance with the designed mobile microblogging task (see 4.7.3.2 for more details). More specifically, the posts were evaluated and classified into three categories, words' meanings, composed examples and liked examples. These three categories reflect the learners' practices to approach their targeted vocabulary. The first category included the learners' tweets concerned with targeted words' meanings. That is, any post containing a word's meaning/s, translation or definition. The second one included the learners' tweets concerned with the use of recently learned words in original composed sentences. That is, any post containing example/s written by a learner. The last category included the learners' tweets concerned with sharing authentic examples from the Twittersphere

that they observed and liked. The third stage was concerned with counting the posts contained in each of the three mentioned categories.

Accordingly, the described measurement and analysis of the posts provided a total number for each participant. This number reflects the degree of each learner's involvement and engagement with the targeted words and is referred to in this research as Twitter activity measurement (TAM). Identifying the TAM of the participants is useful in two ways. First, it generates numerical data that can statistically be analysed. Second, it enables the making of statistical correlations between the learners' TAM and other relative variables in this research, for example, testing statistically the relationship between the participants' TAM as one variable and their vocabulary knowledge development as a second variable. The results obtained from the statistical test can be useful in complementing the learner's responses in the interviews, focus groups, weekly reports and responses to open-ended questionnaires' items regarding the effectiveness of the adopted mobile microblogging tool and task in involving and engaging the learners as well as improving their vocabulary knowledge. They will also be used to partially answer the second and the third questions (Table 7).

4.6.7 Research diary

A diary describing the daily procedures, feelings, actions and reactions during the course of the research was used, making a detailed history for the research. Heigham and Croker (2009) have stated that having a documented research diary "can be invaluable aid to improving the quality of the research process" (p.172). Similarly, Etherington (2004, p. 32) has suggested that research diaries may assist to "inform the process and outcomes of inquiry", which may shed light on some hidden issues, and so reveal the steps involved in the interpretation of the data. In this study, the researcher ensured to note down feelings, activities, feedback or any relevant issues during the fieldwork. These include those related to him or to the participants. However, these records will only be used to inform the analysis of the data. In other words, they will not be analysed or relied on as part of the main data.

Table 7: Research questions and instruments

Research Questions	Research Instruments	Type of Data
RQ1: How do EFL learners perceive the adoption of mobile microblogging to approach vocabulary learning? <ul style="list-style-type: none"> a) What are their attitudes towards vocabulary learning before and after the research intervention? b) What are their attitudes towards utilising a mobile microblogging tool to approach vocabulary learning before and after the research intervention? c) How does mobile microblogging help EFL learners to approach vocabulary learning? d) What challenges might be encountered? 	Questionnaires, interviews, focus groups & weekly reports	Quant. & Qual.
RQ2: How does the adoption of mobile microblogging increase EFL learners' engagement with vocabulary?	Interviews, focus groups, & Twitter's activity measurement	Quant. & Qual.
RQ3: How does the adoption of mobile microblogging impact EFL learners' knowledge gains and development? <ul style="list-style-type: none"> a) How do they perceive the impact of the adopted tool on their vocabulary gains and knowledge development? b) Are the words that are engaged with learned better? c) How does the involvement load of the task affect vocabulary development? 	VKS, Interviews, focus groups, & Twitter's activity measurement	Quant. & Qual.

4.7 Procedures

This section describes the steps taken during the fieldwork. This incorporates, obtaining the participants' consent, the steps taken by the participants to approach as well as to engage with targeted vocabulary, the steps taken by the researcher, and administering the instruments.

The implementation of the mobile microblogging to approach as well as to engage with vocabulary learning took place in the second semester of the academic year 2013-2014 at Taibah University. The researcher arrived in Saudi Arabia two weeks before the commencement of the fieldwork. This period was enough to go to the university site and prepare all the necessary work for the research before the beginning of the semester.

4.7.1 Ethics and risks

The current research was conducted after obtaining an approval from the Ethics Committee at the University of Southampton as well as an explicit written consent from each participant. The subjects of this research were provided with two sets of papers to read and sign. The first set

contained the consent form and the participant information sheet. These were required to be provided to the participants in accordance with the regulations of the University of Southampton. The second set contained the ethics of using information and communication technology (Alghafri, 2013) and the additional consent form required by Taibah University. These were required to follow the regulations and guidelines of Taibah University where the study was conducted.

Additionally, the researcher met with the participants and explained to them what participation in this research entails and that participation is completely voluntary. The participants were made aware that they could withdraw from the research at any time without being required to provide any reason. The researcher also stressed that all data collected, i.e. personal information, responses, recorded interviews, reports and every other form of data, will be kept completely confidential, anonymous and will be safely stored (on a password-locked computer).

It can be also asserted that the risks of taking part in this research, whether to the participants or the researcher, were not found to be major. None of the research procedures and/or activities that this research involved was conceived to cause any danger to the participants. Still, the researcher constantly encouraged the participants to contact him if they encountered any problems or difficulty resulting from participating in this study. Moreover, since the researcher is a staff member at Taibah University, it was expected that some participants may believe that choosing to participate in the study or withdraw from it might affect their course marks. This is why it was made clear to all students, participants and non-participants, that neither accepting to participate in the study, or otherwise, nor deciding to withdraw from it would affect their course marks in any way.

Finally, as Twitter is part of web 2.0 technology that display materials published by anyone, it was essential to guide the participants on how to deal with useless, irrelevant and/or inappropriate materials they might encounter. Accordingly, the researcher has raised the participants' awareness on how they should deal with tweets that are irrelevant, not useful, or contain inappropriate materials. More specifically, when searching a targeted word in the Twittersphere, tweets that contain lots of unknown words, abbreviations, little information, inappropriate materials or anything that might distract learning should be skipped and avoided.

4.7.2 Selection of the targeted words

The overall research design of this research is pre-test-intervention-immediate post-test. This involves determining the participants' existing vocabulary knowledge before the research intervention and then checking the state of it after the intervention. Selecting the targeted words had gone through two stages. There was a need, first, to develop a list of broad targeted

vocabulary items that the students would need to learn in their course, Reading II. Second, the learners' knowledge of the words included in the broad targeted vocabulary list was tested and consequently, the words were classified based on the VKS five categories ranging from 1 to 5. In other words, the unknown words as well as the words with less knowledge were selected to be used as the targeted words in the research intervention and the remaining ones were excluded. The steps undertaken during each of these two stages will be elaborated and discussed.

With respect to the first stage, developing a list of broad targeted vocabulary items, a number of suggestions regarding the way to do this is offered in previous research (e.g. Nation, 2001; McCarthy, 1990; Schmitt, 2010a). McCarthy (1990, pp.78-79) has stated that it is crucial to decide what vocabulary items have to be particularly focused on. He has claimed that there seem to be three principal ways that affect the selection of targeted vocabulary:

1. Teachers'/course book-writers' predictions.
2. A sense of need in the learner, fostered by the teacher.
3. The learners' own sense of their needs, which may conflict with the teachers' perceptions.

This view is supported by Nation (2001) who has indicated that determining learners' language use goals is necessary; learners with academic interests might have different goals from those learning general English. The above two views are complemented by Schmitt (2010a, p.267) who writes that "the most ecologically sound items would be those which are useful for your students and would be taught anyway".

Accordingly, the words selected in this research had to be ones that the learners were required to learn in connection with their academic interests and/or words that they had to learn in order to pass their university course. Their course textbook was used as the main source from which the targeted vocabulary items were selected. The process of selecting the broad targeted vocabulary items went through two steps.

1. Listing all the lexical items included in the vocabulary sections of the participants' reading textbook. These were the items that were highlighted by the Reading II textbook's writers as key words students need to learn and understand. These words were used in the reading passages and/or textbook activities.
2. Listing additional words that were indicated by the teacher of the Reading II course as important items that students were required to learn. These additional items were selected from among the words used in the reading passages and/or textbook activities.

These two steps of listing the targeted words ended with forming a broad list of the targeted words that contained 211 words.

In the second stage, the pre-VKS was used to examine the learners' degree of knowledge of the listed broad targeted vocabulary items. While the VKS test format was meant to identify different levels of knowledge for the tested words, it was used at this stage to mainly identify learners' level of knowledge for each listed word. The pre-VKS was then scored and thus it became possible to classify the words based on the learners' knowledge of them ranging from being totally unfamiliar to being already acquired. Consequently, the words that were known to the majority of the learners were omitted. This was essential as including words that were known to the participants do not make any sense and would rather be considered a waste of time (Schmitt, 2010b). This process ended up with a reduced targeted words' list, the VKS-combined, containing 150 words that were either not known to the majority of the learners or had the least knowledge.

This list was then used to form two equal groups of words, the VKS-Twitter and the VKS-Traditional. It was ensured that both groups contained unknown words, so comparison between the learners' pre-VKS and post-VKS knowledge of the words could be made. The words in both groups were divided over the semester teaching weeks in accordance with the contents and the pacing schedule used by the course teacher. The Weekly words contained in the VKS-Twitter were posted, so learners can use the mobile microblogging tool and task to learn them. On the other hand, the weekly words contained in the VKS-Traditional were left to the learners to approach them in their own ways.

4.7.3 Research intervention

This section will discuss the training and workshop provided to the subjects. It will describe what information was provided to the subjects and how they were trained to post, respond and read the posted tweets. After that, the practical steps applied to facilitate learning as well as engaging the students with their targeted vocabulary will be presented and discussed.

4.7.3.1 Training

It can be argued that implementing a new technological tool into formal education for students to use has to be preceded with sufficient training. Alzahrani (2013), who investigated the impact of using the wiki technology in learning biology, found that a lack of sufficient training might distract learners rather than facilitate their learning. Similarly, teachers should provide their students with tutorials and every possible support that will minimise the struggle of the students when using Twitter as a learning tool as well as raising their awareness of privacy issues (Lin et al., 2013). Therefore, it was felt necessary to provide training to the subjects of this research to avoid distraction and guarantee their familiarity with the use of Twitter for vocabulary learning.

As the number of the subjects was 39, they were divided into two groups. This helped the researcher to give more attention to each participant in each training session. The subjects in this research received two hours of training on using Twitter. The training was provided by the researcher. It introduced Twitter and its features as well as assisting those who had never used Twitter before to create their own accounts. The researcher had also raised the participants' awareness about their own privacy and advised them to decide whether to create a separate Twitter account to participate in this research or use their own personal account.

After that, the participants were encouraged to practice what they had just learned. Each participant was encouraged to post a welcome tweet in the course hashtag in Twitter. In addition, assistance was obtained from the participants who already had a good experience on using Twitter. Each one of those experienced participants was assigned to a group of four participants to help with practising posting in Twitter as well as accessing and reading the course hashtag.

After the training, the participants were informed that they could practice using the course hashtag for two days to interact with one another about any topic of interest. At the same time, they were encouraged to contact the researcher, who could be reached on Twitter, to respond to questions or to meet in person if necessary. Alternatively, they could seek help from their classmates to deal with any challenge they might encounter during their use of Twitter. It was also suggested to search YouTube, if preferred, to learn how to use Twitter, as many explanations can be found, in both Arabic and English.

4.7.3.2 The mobile microblogging vocabulary learning task

This section describes the steps undertaken to develop the mobile microblogging task and then how it was implemented to involve and engage the learners with their targeted vocabulary items. The mobile microblogging task was developed based on the assertions of the *Involvement Load Hypothesis* (Laufer & Hulstijn 2001), the concept of *engagement* with vocabulary (Schmitt, 2008), and the three effective elements of integrating Twitter into college level courses proposed by Junco et al. (2013). The platform of the adopted mobile microblogging tool, Twitter, was where the learners were supposed to complete this developed vocabulary-learning task.

According to Laufer and Hulstijn (2001), the Involvement Load Hypothesis consists of three components: need, search and evaluation. *Need* entails the requirement for certain knowledge of language feature about a word to accomplish a required task. For example, needing to learn particular words to pass an exam or comprehend a passage. *Search* refers to finding information about an unknown word, such as consulting a dictionary to find the meaning of a new word.

Evaluation involves comparing the obtained word knowledge or the word with other words to check its suitability and usability in a given context. For example, comparing the different meanings of a word and then choosing the meaning that is suitable for the context of use. The current task was designed with the aim of incorporating all the three components of the Involvement Load Hypothesis. To elaborate, the participants were asked to learn words they needed, search their meanings and then evaluate their learning by comparing the forms and meanings of recently learned words as well as using them to compose original sentences.

Schmitt (2008) has proposed the term *engagement* to refer to any kind of involvement learners might have with their targeted vocabulary. This includes any activities/tasks that extend the time spent on vocabulary items as well as lead to more manipulations of, attention or exposure to lexical items (Schmitt, 2010b). Engagement in the current research covers any activities and/or ways of learning that help to engage the learners other than the ones included in the Involvement Load Hypothesis. Accordingly, the development of the mobile microblogging task considered the potential of utilising Twitter as a mobile microblogging tool to engage the learners with their targeted vocabulary in a number of ways. For example, the potential of the adopted tool to connect the learners with the broader world where they can gain access to authentic language might increase their frequency of encounters with their targeted words.

Besides the three components of *The Involvement Load Hypothesis* (Laufer & Hulstijn 2001) and Schmitt's (2008) notion of *engagement* with vocabulary, Junco et al. (2013) have identified three effective elements of integrating Twitter into college courses that can be considered best practice:

1. Requiring students to use Twitter as part of the course is important in affecting academic outcomes.
2. Twitter should be integrated into the course in educationally relevant ways.
3. Faculty engagement in the platform is essential in order to impact student outcomes (Junco et al., 2013).

These three elements were also considered in the development of the mobile microblogging task. The integration of Twitter was introduced to the participants as part of the course. The participants were encouraged to use the adopted mobile microblogging tool prior to attending their classes as well as after they finish them. In addition, the steps were designed to help the learners fulfil their course requirements. Finally, the researcher, who was introduced by the course teacher as an assistant, engaged carefully with the learners during the intervention by posting the weekly-targeted words, responding to questions and observing the posts and interactions in the course hashtag.

Once the weekly-targeted words were posted in the mobile microblogging tool, the learners were supposed to involve and engage with them in a number of ways. They were expected to:

1. Search the words' meanings, translations and/or definitions using:
 - a. Their own preferred dictionary.
 - b. Classmates' posts contained related information.
 - c. Both ways.
2. Share what they have just learned about the words with their classmates.
3. Evaluate recently learned words by observing them in the posts of other classmates and/or authentic people in the Twittersphere as well as using them to compose example sentences. These incorporate:
 - a. Comparing the learned meaning/s of a word with its other meanings.
 - b. Comparing a recently learned word with other words to check its suitability in a given context.
 - c. Comparing a recently learned word with other words to check its usability in a given context.
4. Choose authentic examples in which their recently learned words were used and share them with other classmates.
5. In case of facing any difficulty with a word, obtain support from other classmates.
6. Provide support to those facing difficulty with a word.
7. Comment on, re-tweet and/or like other classmates' posts they found helpful and useful.
8. Keep checking the mobile microblogging tool and read new posts and examples.

4.8 Data analysis

Data analysis refers to making sense of collected data (Parahoo, 2014). The data collected in this research is mixed, quantitative and qualitative. The questionnaires, weekly reports, the VKS and Twitter's activity measurements provided quantitative data. The interviews, focus groups, weekly reports and responses to open-ended questionnaires' items provided qualitative data. Two types of triangulation are considered in this research, data triangulation and methodological triangulation (Denzin, 1970 in Bryman, 2004, p. 1142). According to Denzin (1970), data triangulation refers to collecting data using different instruments, such as questionnaires and interviews. Both instruments can be used at the same time to answer a research question. In addition, he described methodological triangulation as using mixed methods to gather data. In this research, different instruments and methods were employed with the aim of providing findings that are more comprehensive.

Descriptive and inferential statistics were used to analyse the questionnaires, the VKS and Twitter's activity measurements. These included reporting valid percentages, comparisons between means of paired groups and correlational statistics. To facilitate the analysis of the quantitative data, Microsoft Excel 2013 and IBM SPSS Statistics 22 software programs were used. On the other hand, the qualitative data were analysed thematically. The thematic analysis was guided by Braun and Clarke's (2006) proposed step-by-step guide that contains six phases that start with preparing the gathered data and end with writing up the findings report (see 5.2.3 for more details). The MAXQDA 12 software was used to manage, organise and analyse the data.

The data was collected following a mixed-methods approach including questionnaires, interviews and focus groups. The analysis of the gathered data yielded results that can be compared in terms of similarity and dissimilarity. If the findings from each instrument lead to a similar conclusion, the validity will be confirmed. This is referred to as 'methodological triangulation' (Bryman, 2004).

4.9 Summary

Data was gathered using interviews, focus groups, weekly reports, questionnaires, the VKS and Twitter activity measurement. An overview of the procedure followed to select the participants in this research was provided. Ethical considerations (e.g. obtaining the participants' consent, providing sufficient information and minimising risks) and how they were dealt with were detailed. The research procedures, including training the participants on using the adopted tool and the learning task, were described. The following chapters will respectively present and discuss the findings from these instruments.

Chapter 5: Findings

5.1 Introduction

This chapter presents the results from the data gathered during the fieldwork. It includes two main parts, the findings of qualitative data analysis and the findings of quantitative data analysis. The first part reports the findings of the data gathered from interviews, focus groups, weekly reports and responses to the questionnaires' open-ended items. It is concerned with understanding the participants' perceptions about the adoption of the mobile microblogging tool and the task to approach vocabulary learning, promote engagement, impact on learning outcomes and potential challenges.

The second part of the chapter presents statistical results of the pre-post VKS followed by a descriptive and inferential analysis of the learners' mobile microblogging practices to approach vocabulary learning during the research intervention. Also, it displays the results of the pre- and post-questionnaires concerned with learners' attitudes towards vocabulary learning, mobile leaning and using Twitter to approach vocabulary learning. In order to have a comprehensive account of these findings, the chapter concludes by reviewing and validating the findings presented in the first and second parts.

5.2 Findings of qualitative analysis

5.2.1 Introduction

The aim of the qualitative data gathered from the interviews, focus groups, weekly reports and participants' responses to open-ended questionnaires' items is to contribute to the research questions by providing in-depth information about (1) the participants' perceptions about the adoption of the mobile microblogging tool to approach vocabulary learning, (2) promoting engagement, (3) the impact on learning outcomes and (4) potential challenges. The data gathered would provide insights into precisely what the participants' attitudes towards the adopted tool were, how they perceived it and utilised its features. Also, how the tool and its features helped to promote the participants' engagement outside and inside the classroom and contributed to develop their knowledge of the targeted items, and finally what challenges learners might encounter in relation to the adoption of the current tool.

5.2.2 Preparing data for analysis

This section presents a general description of the data obtained from each instrument. This includes, for example, the average length of each interview and the number of responses to the open-ended questions. It also introduces the software used for data management and analysis and the labelling of participants and instruments.

Interviews with 22 participants were recorded. The average length of each interview was around 21 minutes. The total length of the recorded interviews was 7 hours and 36 minutes. While a list of prearranged questions and topics to be covered in each interview was known and used by the researcher, it was not possible to predict the participants' responses and thereby follow-up questions generated from the participants' responses were also used. The main purpose of using interviews was to gain in-depth information about the participants' attitudes towards using the mobile microblogging to approach vocabulary learning, the perceived educational affordances of the mobile microblogging and how they helped to promote learners' engagement with vocabulary.

Two focus groups interviews with two groups of the participants were recorded. Five students participated in the first focus group and seven students in the second one. In order to collect data from as many participants as possible, it was ensured to include those who were not interviewed before. The length of the first group interview was 50 minutes and the second one 1 hour and 9 minutes. The total length of both recordings was 1 hour and 59 minutes. Similar to the interviews, data gathered from focus groups was used to gain in-depth information about the participants' attitudes towards using the mobile microblogging to approach vocabulary learning, the educational affordances of the mobile microblogging and how they helped to promote learners' engagement with vocabulary. The same list of prearranged questions and topics to be covered in the interviews was used in the focus groups.

The participants were asked to fill in weekly reports which contained one questionnaire item followed by an empty space in which they could write any reflection, comments, suggestions or concerns related to using Twitter to approach vocabulary learning. The main purpose for using the weekly report was so that providing the participants with a space to reflect, comment or express their related ideas would provide interesting and valuable data. Also, asking the participants to provide any information on a weekly basis is more practical than waiting until the end of treatment as some information might then be forgotten and not reported. However, only 20 participants have contributed and produced 39 responses in the given space. Most of the provided responses were short and in some cases only a few words were provided. Yet, these few contributions provided interesting and useful data to be analysed.

The participants' responses to open-ended questionnaires' items were gathered and organised for analysis. The rationale for providing the open-ended items in the questionnaires was to allow the participants to add any ideas, additional information, comments or reflection that might add and enrich the data gathered. Only five responses were given in the pre-questionnaire and 11 responses in the post-questionnaire. However, three out of the 11 responses given in the post-questionnaires were excluded, as they only meant to express thanks.

As the participants' first language is Arabic, they were given the choice to use it or to use English to write and/or say their responses in all instruments. It can be justified that allowing the participants to use their preferred language to respond to the interviews and other instruments should assure their convenience and encourage more elaboration. Consequently, the Arabic language was mainly used by the participants in the interviews and focus groups. Few English words were used during these interviews as well. Similarly, the provided response to the weekly reports and questionnaire open-ended items were in Arabic, except three in the weekly reports and one in the questionnaires that were in English. However, it is important to illustrate that the participants were not prevented from using their local dialect of Arabic language. Accordingly, all Arabic excerpts chosen to be included in this research were presented exactly as said or written by the participants with their English translations. The excerpts have been rewritten in a more formal form of Arabic language and included in Appendix F.

In order to ensure that the provided translations carry the same meanings conveyed in the Arabic excerpts, two steps were taken. First, all the transcripts were translated by the researcher. Second, in order to ensure that both the Arabic excerpts and their translations carry the same meanings, they were given to a colleague to check.

The gathered qualitative data was prepared and checked before starting the process of analysis. These include transcribing the interviews and focus groups, and then checking them for consistency. After that, all the transcriptions, as well as the responses to open-ended questions, were transferred to 'MAXQDA 12' to be analysed. The MAXQDA was selected because it can be used to facilitate data organisation and coding. It also supports the Arabic language, which was used by the participants to respond to the interviews, focus groups, weekly reports and questionnaire open-ended items.

Prior to analysing the data collected from interviews, focus groups, weekly reports and responses to open-ended questionnaire items, it was significant to label each participant and instrument. This procedure of labelling is particularly useful to form the basis of the later analysis. The main advantage of creating a coding system for the research participants and instruments is to inform about the source of gathered data in terms of what instrument and which participant.

As far as confidentiality and anonymity are concerned, each of the participants in this research was allocated a unique code. To illustrate, each participant was coded using the letter ‘P’ plus a number (e.g. P1), while the interviewed teacher was coded using the letter ‘T’. Additionally, acronyms were used to refer to the research instruments (e.g. interview ‘INT’). The acronyms referring to each instrument are displayed in Table 8.

Table 8: Research participants and instruments codes in Arabic and English

Example	Meaning	التفصيل	مثال
P1_INT	Participant number 1 response in the interview	مشارك رقم ١ - مقابلة	م ١ - مق
P15_FG	Participant number 15 response in the focus group	مشارك رقم ١٥ - مجموعة التركيز	م ١٥ - مج
P5_WR	Participant number 5 response in weekly reports	مشارك رقم ٥ - التقرير الأسبوعي	م ٥ - تق
P8_PreQ	Participant number 8 response to a pre-questionnaire open-ended item	مشارك رقم ٨ - الاستبيان القبلي	م ٨ - إس. ق
P2_PostQ	Participant number 2 response to a post-questionnaire open-ended item	مشارك رقم ٢ - الاستبيان البعدي	م ٢ - إس. ب

5.2.3 Procedures of data analysis

The aim of qualitative data analysis is to facilitate understanding of gathered data for the purpose of contributing to research study questions (Yin, 2011). It entails a number of stages and steps, starting from preparing gathered data to writing up the findings report (Braun & Clarke, 2006; Creswell, 2013). However, Cohen et al. (2013) claim that there is no agreed set of standards on how qualitative data analysis should be processed and researchers have to decide the most appropriate steps of analysis to reach meaningful conclusions.

As mentioned earlier, the current research is concerned with understanding the learners’ perceptions about the adoption of the mobile microblogging tool and task to approach vocabulary learning, promote engagement, impact on learning outcomes and potential challenges. Consequently, it is believed that using a thematic analysis method “for identifying, analysing, and reporting patterns (themes) within data” (Braun & Clarke, 2006, p. 6) can provide a detailed description of data and rich findings. The thematic analysis was guided by Braun and Clarke’s (2006) proposed step-by-step guide. The guide contains six phases that start from preparing gathered data to reporting findings.

As explained by Braun & Clarke, (2006), phase 1 is concerned with data familiarisation. This includes data transcription, reading and rereading in order to immerse in the data as much as possible. It is also possible to take notes on initial ideas. Phase 2 is concerned with generating initial codes. During this, the data is searched for potential codes and themes. It is important to

code for as many codes as possible. After that, the codes need to be reviewed before starting the third phase during which searching for themes begins. The codes generated during the third phase will be sorted. This may result in a few codes forming main themes and others forming sub-themes. If more unwanted codes remain, they might be discarded.

After that, during phase 4, the identified themes need to be refined. To do so, the segments need to be reviewed to ensure that they fit into their themes. Also, the relationships between the themes need to be checked to ensure that they reflect the meaning of the data. As a result, it is possible that some themes might be merged or some other themes might be divided into more themes. Then comes phase 5 which is concerned with defining and naming the themes. This should be done carefully to ensure that readers can have the right sense of what each theme is about. Finally comes the last phase during which the findings report will be produced.

Following these phases, the researcher asked a colleague, as a second coder, to code one of the interviews to ensure the reliability of the coding. Both codings were then crosschecked for consistency and this showed no noticeable disagreement between the two coders.

5.2.4 Participants' attitudes

This theme is a predetermined theme that is related to the participants' attitudes towards using the mobile microblogging tool and task to approach and improve their knowledge of targeted vocabulary items. The responses of more than two thirds of the participants show positive attitudes towards learning vocabulary via the use of the mobile microblogging tool. However, there were few negative attitudes towards using the mobile microblogging tool to approach vocabulary learning. These negative attitudes were mainly related to the participants' feelings of boredom and preference to use alternative means. The interviews show many examples of positive attitudes towards using the mobile microblogging tool to approach vocabulary learning. They also demonstrate how the participants' attitudes have improved after the research intervention.

The participants believed that Twitter is a useful microblogging tool that helps learners to approach vocabulary learning. These views will be illustrated with extracts from the participants' responses. The participants' positive attitudes can be attributed to several reasons that were identified and will be discussed further with examples in this section.

Realising and noticing the positive impact of utilising the adopted mobile microblogging tool on vocabulary learning and retention was one of the reasons that affected the participants' attitudes positively. A number of the participants had expressed how using mobile microblogging had positively impacted their own vocabulary learning, retention and knowledge development. For

example, P2_INT viewed his experience of using the mobile microblogging tool to approach vocabulary learning as being successful. He alluded to the positive relationship between using the mobile microblogging tool and his vocabulary development. He stated:

م ٢ - مق: من ناحية تعلم المفردات مرة كويس التويتر. تتعلم بسرعة وفي نفس الوقت أفضل من الكتاب. يعني ما تحس أنه ممل، في نفس الوقت تحس إنك تستمتع وتتعلم ويصير خلاص الكلمة هذه تدخل في دماغي صعب أن أنساها.

P2_INT: With regard to learning vocabulary, Twitter is very useful. You can learn quickly and at the same time. It is better than learning from the book. You do not feel bored, you feel you are enjoying and learning... and in this way a word enters my brain and becomes difficult to forget.

Also, a number of participants described and compared their own experience of using the mobile microblogging tool to approach vocabulary learning with their previous experiences of using other tools, materials or methods. They expressed their own views on which of these they find better and more beneficial. For example, P6_INT explained:

م ٦ - مق: أريح على مثلاً برنامج زي تويتر، بشكل عام على الجوال مثلاً، التنقل مثلاً يكون عندك نت في أي مكان، تستفيد في أي مكان لكن إذا بالطريقة القديمة اللي تعلمناها في الكلمات... لا في الترم الأول أقصد. في الترم الأول ما كان فيه الطريقة هذه، التعلم النقال يعني. كنا بالكتاب تركيزنا ع الكتاب. هذا شيء متعب. يمكن الاستفادة تكون أقل، لازم تكون في البيت ولزم يكون الكتاب معاك. صعب تحمل الكتاب معاك في أي مكان لكن إذا حملت الجوال يمكن أحسن من الكتاب تستفيد أكثر من الكتاب بكثير.

P6_INT: ...it (using technological tools) is more comfortable to use an application such as Twitter... generally, on mobile devices... mobility, for example, you have internet connection anywhere, you can benefit at any place. But if we use the old way for learning vocabulary... no... I mean... Last semester, we did not have this method, I mean mobile learning. We used to focus on the book only. This was tiring. It might be less beneficial... you have to be at home and the book has to be with you... it is difficult to carry the book everywhere. But if you carry your mobile... it might be better than carrying the book... you benefit this way much better than carrying the book to learn.

Other reasons that appeared to affect the participants' attitudes positively can be elicited from an answer by P22_INT. He argued that, in this era, the use of mobile microblogging is beneficial because of two reasons. First, mobile devices and Twitter are widespread among students. Second, students can post, write or search anywhere, anytime.

م ٢٢ - مق: في الوقت هذا مفيد. لأن الطلاب أغلبهم معهم جوالات. وكل واحد مثلاً عنده حساب في تويتر وزي كذا. يعني ممكن حتى و هو في الجامعة وفي البيت وفي أي مكان يقدر يغرد يكتب أي شيء، يبحث و زي كذا.

P22_INT: Nowadays, it is beneficial because most of the students carry mobile devices. And each one of them, for example, has a Twitter account, and so on. This means that he might... even... if he is at the university, at home or anywhere can post, write anything... search, and so on.

Moreover, group learning which was perceived to be among the facilitated educational affordances of mobile microblogging affected the participants' attitudes positively. As an example, P33_INT demonstrated how learning with other classmates during the mobile microblogging weekly tasks benefited him.

مق - م ٣٣: تويتر فادني في اني صرت أتعلم من أصحابي... يعني خلاني معظم وقتي اني مثلاً أحياناً أخلّي في الأسبوع يومين إلى ثلاث أيام أدخل على تويتر أشوف الهاشتاق أو أشوف أصحابي ايش كاتبين و زي كذا...

P33_INT: Twitter benefited me in that it enabled me to learn from my classmates... It made me most of the time for example, sometimes, I check the course hashtag or check what my classmates have posted two to three days a week, and so on...

Similarly, P18_INT explained how he benefited from group learning as well as how the retweet feature, which is one of the native features of Twitter, was useful and facilitated his learning.

م ١٨ - مق: شيء جيد لأنه أنا بعض الكلمات التعريف حققتها مثلاً ما ألفاها حتى في المواقع هذه اللي قلت عنها. فا أشوف الأشياء اللي مرسلينها العيال و ألقى التعريف اللي أبغاه وأسوي لها ريتويت عشان يطلع في البروفايل حقي ويصير خلاص التعريف موجود عندي.

P18_INT: It (using the mobile microblogging) is something good because I did not find the definitions of some of the words. In such cases, I check what my classmates have posted and I search the definition I need and then I retweet it, so it appears in my own timeline and the definition stays in my account.

In contrast, a small number of the participants (less than 20%) expressed some negative attitudes towards using the adopted mobile microblogging tool for learning. For example, P22_INT, explains that using Twitter to post and share his knowledge made him feel bored after going through it for some time. He said:

م ٢٢ - مق: مع الاستمرار مليت... الكتابة هي (التي جعلتني أشعر بالملل).

P22_INT: ...after doing this (posting in Twitter), I started to feel bored... Writing is (what made me feel bored).

In addition to feeling bored, P35_INT suggested that lack of interest in using technology could be another reason that can be attributed to negative attitudes. He explained:

م ٣٥ - مق: ما أدري، حسيت اني طفشت ما.. لأنني قلت لك أنا ما أستعمل تويتر أصلاً قبلها، فاللي يستعمل تويتر قبلها يمكن تعجبهم هذه الطريقة، هذا أول شيء. ثاني شيء ما فضلت هذه الطريقة يعني لو زي في وسط المحاضرة، في وسط القطعة في وسط هذا الدكتور يقولنا معناها و خلاص، ما أحب يعني أدخل وامسك أجهزة و أدور بنفسني كذا و اقرأ وهاشتاق و مادري ايش ما أحب.

P35_INT: ...I do not know... I felt bored. I did not... because I told you, I have not used Twitter before. Those who have used Twitter before might like this way of learning, this is the first thing. The second thing is that I did not prefer this method. I mean if, for example, in the middle of the lecture... in the middle of the reading passage... in the middle of the... the teacher tells us its meaning and that's it. I mean going and carrying devices and searching by myself like this, reading and (using) hashtag and so on... I do not like.

5.2.5 Key features of mobile microblogging in relation to learning

This theme is a predetermined theme and includes ten related sub-themes, as illustrated in Figure 3. It is related to aligning the features of mobile microblogging tools in general and the unique features of Twitter with the educational aims of consolidating and engaging the participants with their vocabulary learning. A number of key features of using the mobile microblogging tool to approach targeted aspects of language were identified from the

participants' responses which indicated that these features facilitated approaching targeted vocabulary and thus enhanced their learning outcomes. These features will be introduced and explained along with a few examples.

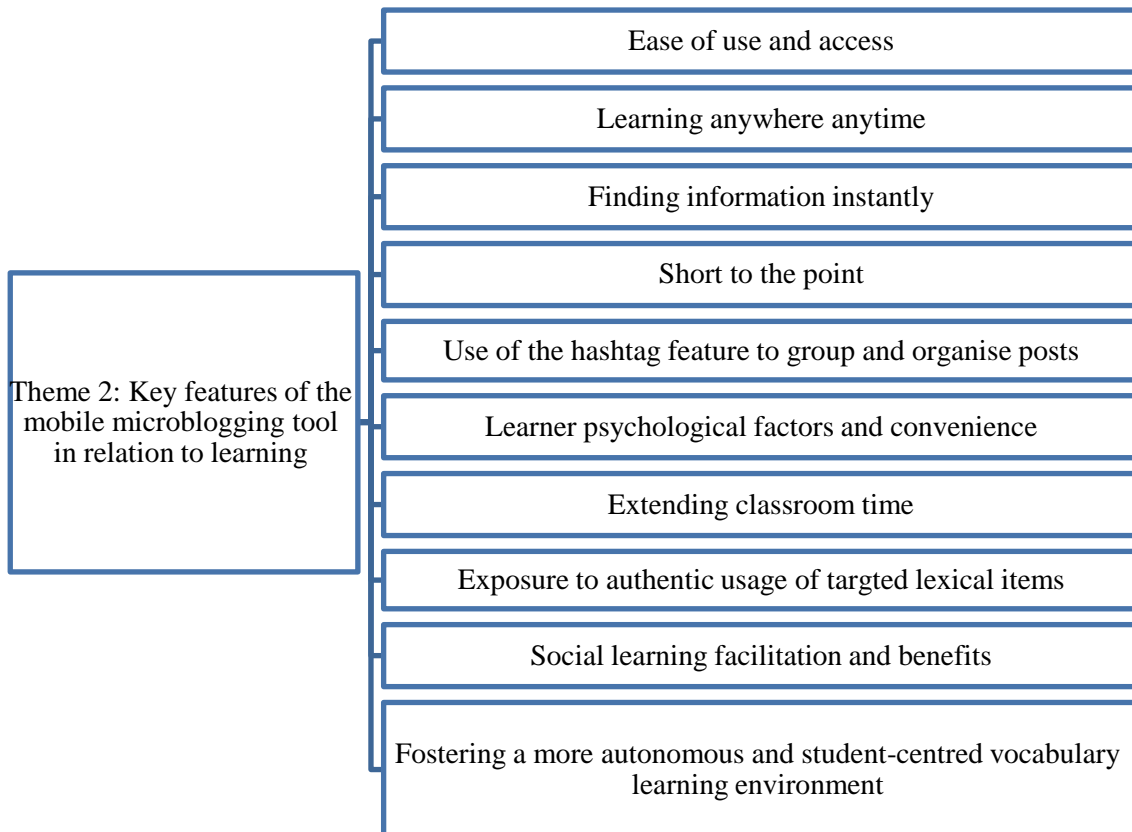


Figure 3: The theme and sub-themes are related to aligning the features of mobile microblogging tools with the educational aims

5.2.5.1 Ease of use and access

Perceived ease of use and access were among the features that seemed to influence the participants' usage of the tool to share their vocabulary knowledge with other classmates as well as reading others' posts during the teaching intervention. For example, P33_INT indicated that Twitter is easier to use in comparison with other popular social networks, such as Facebook. He stated:

م ٣٣ - مق: طريقة الفيس بوك ما عجبنتني لأن (friends) وما أدري كيف طريقتها جداً متعبة... تعلمت من تويتر في كل شيء أكثر من الفيس بوك مع إن الفيس بوك دخلت فيه قبل.

P33_INT: I did not like the way of using Facebook because... friend and I do not know... using it is complicated... I learned how to use everything in Twitter more than Facebook although I joined Facebook earlier than Twitter.

Also, P22_INT commented that each student carries a mobile device and can easily access Twitter, post, search and so on. He commented:

م ٢٢ - مق: هو حلو يعني وسهل. تقدر تخش كل واحد معه جواله ويقدر يدخل ويغرد ويبحث و زي كذا.

P22_INT: It (mobile microblogging) is nice and easy. You can access... everyone has a mobile device and can access, tweet, search and so on.

In relation to this view, another interviewee compared the experiences of using a textbook or a personal computer with using the mobile microblogging tool to approach and learn new targeted words. He said:

م ٣٠ - مق: تويتر في البيت تشوف إنت كل شيء عندك حتى و إنت مشغول بعد شغلك تفتح الجوال تطلعها على طول أحسن أسهل بكثير من قبل كنت أفتح الكتاب أو أدخل على اللاب توب وأفتح نت.

P30_INT: When using Twitter, you can access everything while at home... even when you are busy, you still can use your mobile to access it when you become free. It is better, much easier than before, as I used to open the textbook or use my laptop to get connected.

The last two views were echoed by another participant who suggested that the adoption of the mobile microblogging tool enabled him to instantly access and revise the targeted vocabulary. He mentioned:

م ١٨ - مق: صار زي المرجع السريع يعني بعدين يعني على طول أطلع جوالي و ألقى الكلمات كلها موجودة عندي بدل ما أروح أبحث عن كل كلمة وممكن مسجلها في الكتاب أو لا، فيصير خلاص أدخل على تويتر عندي في الجوال على طول وألقى الكلمات كلها موجودة عندي.

P18_INT: ...it (Twitter) has become like a quick reference. I mean, I can use my mobile device to access and deal with the (targeted) words instantly instead of searching each word which I might/might not have written in my textbook... using Twitter enabled me to find all the words instantly.

However, one participant declared, in his fourth weekly report, that his learning via the mobile microblogging tool was nice but tiring and then indicated that he prefers to use a dictionary book instead. He stated that:

م ٣٢ - تق: تعلم المفردات باستخدام تويتر شيء جميل ولكنه متعب باستخدام الجوال الذكية فهل بإمكانني استخدام القواميس التي خارج الجوال؟

P32_WR: Learning vocabulary via Twitter is nice but it is tiring when using smart phones. I wonder if I can use dictionary books instead.

He made another comment at the end of his post-treatment questionnaire that could be linked with his previous comment. He indicated that due to their bigger screen size, tablets are better than mobile devices for learning. Thereby, it can be assumed that this participant's concern was mainly related to his disfavours of mobile devices' screens small size.

م ٣٢ - إس. ب: في نظري استخدام الأجهزة اللوحية في تعلم المفردات أفضل بكثير من الجوال في مختلف النواحي مثل كبر حجم الشاشة.

P32_PostQ: In my point of view, using tablets to learn vocabulary is much better than using smartphones in many aspects such as the bigger size of their screens.

5.2.5.2 Learning anywhere, anytime

It was a common view amongst the participants that the adoption of the mobile microblogging tool enabled them to learn anywhere, anytime and consequently impacted their vocabulary learning positively. For example, one participant said:

م ١٧ - مق: زي ما قلت لك في أي مكان وفي أي وقت متى ماكنت فاضي يعني شيء حلو ساعدني كثير.

P17_INT: As I have told you at any place and at any time, when I am free... it is something nice which has helped me a lot.

And another one commented:

م ١٩ - مق: هذا الشيء مريح و جيد يعني لما تؤدي واجبك أو شيء في جوالك هذا الشيء مرة مريح أحياناً أكون مع خط مسافر وأسويه.

P19_INT: This thing is comfortable and good when you do your homework or something related in your mobile phone, this thing is very comfortable. Sometimes, I learn while travelling.

Talking about this issue, P6_INT expressed his appreciation for the adoption of the mobile microblogging tool. In order to support his view, he compared his experiences of learning in the current and previous reading courses. He alluded to the idea that learning anywhere, anytime made learning more flexible, beneficial and comfortable.

م ٦ - مق: في الترم الأول ما كان فيه الطريقة هذه التعلم النقال يعني كنا بالكتاب تركيزنا على الكتاب هذا شيء متعب يمكن الاستفادة تكون أقل، لازم تكون في البيت وللازم يكون الكتاب معاك صعب تحمل الكتاب معاك في أي مكان لكن إذا حملت الجوال يمكن أحسن من الكتاب تستفيد أكثر من الكتاب بكثير.

P6_INT: There was no Twitter in the first semester... mobile learning, I mean. We used to use the book. This was tiring. We benefited less as we were required to be at home and we had to have the book with us. It is difficult to carry the book with you anywhere. But if we carry our mobile devices... we will benefit more.

This view was echoed by P10_INT who added that he felt being able to encounter the targeted words when desired helped him to remember the targeted words better than before. He expressed his wishes to have the adoption of the mobile microblogging tool continued in future courses. He commented:

م ١٠ - مق: إكتشفت شيء ممتاز بلعكس أتمنى يعني كل ترم كذا يكون، لأنه أستفيد أكثر يعني لو تتعلم كلمات في الكلاس تطلع برة تنساهم أما هناك في أي وقت تخش تويتر في وقت يمديك تخش على الهاشتاق و تشوف الكلمة أكثر من مرة.

P10_INT: I discovered that it is something excellent. I hope each term we have like this (adoption of mobile microblogging), because it will benefit me more. I mean, when we learn the words in the class, we forget them once we leave. On the other hand, learning via Twitter enables us to learn at any time by accessing the hashtag and encountering the words more than one time.

Another participant, mentioned that he used to encounter a difficulty with allocating time for studying. However, the adoption of the mobile microblogging tool enabled him to learn at anytime, anywhere and thus his challenge was overcome. He declared:

م ٤ - مج: تويتر ساعدني كنت أواجه صعوبة في تحديد وقت للمذاكرة لكن مع تويتر أقدر أراجع الكلمات أو أبحث عنها في أي وقت برة البيت أو في البيت أو في أي مكان هذا اللي ساعدني في تويتر.

P4_FG: Twitter helped me... I used to have difficulty in allocating time to study but using Twitter enabled me to review the (targeted) words or search for them any time while at home, outside or anywhere. This is how Twitter has helped me.

In addition, P1_FG pinpointed that the adoption of the current tool extended classroom time as students can learn at any time without being concerned about time as is the case when they are in the classroom. He said:

م ١ - مج: أو حتى لما تخرج من المحاضرة تقدر تراجع الكلمات و تشوف يعني تويتر معك يعني تويتر أي وقت عندك ماله وقت حتى ينتهي.

P1_FG: even after leaving the class, you still can access and review the (targeted) words. I mean Twitter can be used any time and it has no time limit.

In addition, P6_INT indicated that using mobile microblogging increases learner engagement with his targeted vocabulary. He explained that relying on the textbook reduces the chance to learn while outside the classroom due to place and time limitations. He elaborated that he carries his mobile devices most of the time and thus uses it to microblog and learn his targeted words. On the contrary, he never carries his textbook and a month might pass without opening it.

م ٦ - مق: بكل أمانة الفائدة بالطريقة هذه أفضل بكثير من الاعتماد على الكتاب بشكل كامل. يعني أصلاً في الغالب بالذات في السعودية هنا ٧٠-٨٠٪ يروح من الوقت على الجوال من وقت الطالب على الجوال. فممكن يتذكر تويتر وهذا فيدخل ويستفيد لكن الكتاب يعني ممكن يمر شهر مايفتح الكتاب الطالب، مايفتح فالجوال دايمًا في يده يستفيد في أي وقت. إذا مثلاً الدكتور طلب منك تتعلم عدة كلمات حدد لك الكلمات من الكتاب ممكن ما تفتح الكتاب في البيت ما تستفيد لكن الجوال معاك 24 ساعة في يدك يعني شيء أكيد راح تتعلم.

P6_INT: To be honest, this method (using mobile microblogging) is much better than totally relying on the textbook. Basically, in Saudi Arabia 70% to 80% of the time is spent using a mobile device... of the student's time. Thereby, he might remember Twitter, use it and get benefit but the textbook... I mean a student might not open his book for a month... he will not get benefit. Thus, the mobile device is in his hand... he can benefit at any time. For example, if the teacher asked you to learn some words... or selected some words from the textbook, you might not open the textbook at home... you will not benefit but because your mobile device is in your hand, 24 hours... I mean you will learn for sure.

5.2.5.3 Finding information instantly

More than two thirds of the participants who commented on their experience of searching information in the Twittersphere felt that this feature impacted their learning outcomes positively. For example, P9_INT indicated that the search feature enables the students to search for a certain word and then observe how it is used in authentic sentences written by classmates and Twitter users. He mentioned:

م ٩ - مق: لأنه تكتب الكلمة المطلوبة وتبحث عنها تلاقىها مستخدمة في جمل وأمثلة عند الغير طبعاً ليس شرط الطلاب.

P9_INT: ... when you write the targeted word and search, your search will show the searched word used by others in many sentences, not necessarily by the students.

It was elaborated by P26_INT that searching information in the Twittersphere would return with many meaningful and helpful results. He specified that the results would show the searched word used in different contexts and could include additional supporting elements, such as photos. Consequently, learning and remembering vocabulary will be better and easier. He stated:

م ٢٦ - مق: لأنه كنت أقرأ تغريدة تغريدتين ثلاثة أربعة مكتوبة في سياقات مختلفة و أغلب التغريدات يكون مضاف معها صورة أو معها شيء فهذه تساعد مرة كثيرة في تعلم معنى الكلمة وتثبت المعنى كمان في العقل.

P26_INT: ... reading others' tweets... I used to read two, three, four tweets in which the searched word was used in different contexts. Also, many of them used to be accompanied with other useful elements such as photos or something else. These help so much to learn and remember words' meanings.

Emphasising the usefulness of searching a certain word to observe and evaluate how it can be used in meaningful sentences in different contexts was referred to by P8_INT. He explained that he searches the words even if they are known to him to learn from native speakers how they use these words in their posts. He mentioned:

م ٨ - مق: أفود شيء لقيته إنه حتى لو كلمات أعرفها وكلمات ما أعرفها نبحت عنها عن الجمل الكلمة اللي أعرفها واللي ما أعرفها كلها، أبحت عنها عن الجمل في تويتر. فأنا أعرف الكلمة كيف يستخدمونها الأمريكيان وكذا، فكيف يستخدمون الكلمة ويكون معناها عندهم وكذا.

P8_INT: the most useful thing from my point of view is searching the words even if they were known to me. I see them in sentences in Twitter. As a result, I learn how Americans (native speakers) use the words in their sentences, and how their meanings vary.

P7_FG and P5_FG indicated that the adoption of the mobile microblogging tool enables the students to search and access authentic language produced by real people, which is not possible when learning in traditional classrooms. It was commented:

م ٧ - مق: في الكلاس ما راح تلقى مكان تبحت فيه عن الكلمة أو تقرأ لناس كاتبين عن هذه الكلمة ما تقدر توصل لناس آخرين

P7_FG: you will not find a place to search about a word and to read how others are using it in their writing while in the classroom... you cannot reach other people (real people/non-classmates).

Moreover, when P8_INT was asked why he favours using Twitter for learning over emails, for instance, indicated that the nature of search results and sense of community were among the reasons why he favoured Twitter. He responded:

م ٨ - مق: لا، أنا أقول تويتر لأنه تويتر فيه خاصية البحث. يعني تبحت عن ناس برا اللغة خارج زملائي في الدول الأجنبية، كيف يستخدمون الكلمة هذه فهذا يعني شيء ضروري وما يوفره البريد الإلكتروني.

P8_INT: No, I would say Twitter because it has searching feature... I mean you can search for people (their posts) outside... I mean people other than my classmates... from foreign countries... how they use the word... this (searching feature) is important and is not available in the e-mail.

P8_INT's response urged for a follow up question about the student's experience with other tools which were followed by a number of shorter questions and answers that in the end reached to the following conclusion.

م ٨ - مق: في قولك لو بحثت فيه تجيك مقالة لكن في تويتر يبسطها لك في ١٤٠ حرف تغريدات قصيرة. يعني هذول ناس عاديين اللي يكتبوا في تويتر ناس عاديين طلاب عاديين شيء عادي يعني أقرب. لأنك تفهم الأشياء ذي.

P8_INT: ...when you search in Google, the results will be articles (long) but Twitter makes it simpler by showing 140-character short tweets... those who post in Twitter are regular people... regular students... something natural, I mean, ... nearer to you... you can understand these things (posts).

5.2.5.4 Short to the point

A variety of perspectives were expressed by the participants in relation to the unique feature of Twitter, its 140-character limit. Whilst more than 60% of the participants indicated that reading short meaningful tweets was very useful for their learning development, they also denoted that being restricted to 140 characters when posting was challenging. However, they also discussed how they managed to overcome this challenge. These views will be illustrated with a few examples.

It was a common view amongst the participants that learning the meanings of targeted words and reading these recently learned words used in original sentences written by other classmates or Twitter users was very useful. For example, P28_INT suggested that short posts are more useful than long ones. He explained that due to the shortness of each post, students could see more than one posted example or meanings written in different ways. He said:

م ٢٨ - مق: تغريدة أفضل إنه تغريدة لأنك إنت ما راح تشوف تغريدة وحدة راح تشوف تغريدات فتأخذ الفكرة حقت هذا وهذا ويعدين بصورة مختصرة كمان.

P28_INT: A tweet. I prefer it to be a tweet because this will make you see many tweets not only one and thus you take the idea of each one... shortly to the point.

Another interviewee alluded to the positive impact of encountering L2 targeted words in a number of short meaningful tweets. He compared the cases of encountering the words in short posts with encountering them in longer ones. He commented:

م ٢٦ - مق: مثلاً عندي كلمة صعبة ما عرفت لها سويت لها بحث في تويتر، عندي ١٥ مثال أقرأ ١٥ مثال في دقيقتين ثلاث دقائق. المثال الأول ما راح أفهمه المثال الثاني ما حافهمه المثال الثالث حيكون صعب المثال الرابع الخامس أكيد حيجيني مثال أنا راح أقدر أفهم منه بينما لو كان صفحة صفحة صفحة حأقرأ الصفحة الأولى ونص الصفحة الثانية حأطفش و أمل ما أحس إنني استفدت وحا أقفل و أجي ماشي.

P26_INT: For example, if I search Twitter to learn a difficult unknown word, my search will show 15 examples... I might not understand the first or the second ones, the third one could be difficult, the fourth the fifth... I must end up with an example that helps me to understand. But if it was a full page, I might read the first page and a half then I feel bored... I might feel it is not useful and will close it and leave.

Talking about disfavouring long texts, one participant pointed out that most people, even in informal contexts, tend to ignore long texts in any social application or even emails. He stated:

م ٢٩ - مق: حتى في البلاك بيري أو في الواتس آب أو في البريد الإلكتروني، الطويل معروف محد يقرأه إيو (نعم) محد يحب يقرأ الرسالة الطويلة.

P29_INT: ... it is common that even in Blackberry, WhatsApp, or emails, nobody reads the long... nobody likes to read the long message.

In the same vein, P30_INT stated that learning and understanding from short meaningful posts is quicker than learning from longer ones. He commented:

م ٣٠ - مق: أسرع للمخ تقرأ كذا بسرعة أو يعني مثلاً بالعامي الزيدة تطلعها.

P30_INT: It is quicker for the brain... you read quickly or as it can be said short to the point.

Another reason explaining why learning from meaningful short posts is more useful was suggested by P14_INT. He assumed that long examples might be useful if the students' language level was high. However, when language level is not high then short posts and examples are more beneficial. He stated:

م ١٤ - مق: والله بالنسبة للي قلت الأمثلة الطويلة بالنسبة للشخص القادر على الفهم، بينما التغريدات هذه للطلاب اللي يكونوا على قد حالهم.

P14_INT: I think long examples might be useful for those whose language level help them to understand but short ones are better for those with lower language proficiency.

It was added by P19_INT that learning from posts that contain long examples and definitions might have a negative impact on learning development. He indicated that when many words, including some difficult words, come alongside a targeted word, the learners could be distracted and consequently lose focus. He explained:

م ١٩ - مق: هي بتشوش عليك شوي القصيرة أفضل تفهمها وخلاص، لما تدخلني مثلاً في خمس أسطر ست أسطر الكلمة هذه أنا ما فهمتها للحين فكيف راح تفهمها من الكلمات الثانية المساعدة إذا كانت الكلمات المساعدة صعبة، كمان يعني راح تضيع.

P19_INT: ... the short ones are better... you could be distracted when the word you want to learn comes in a long text because you have to deal with many words that might include not only new words but difficult ones. You will get lost.

One more example indicated that learning from the posts that contain short examples and definitions is more useful than learning from the long ones. This was provided by P16_FG who remarked that when learners are less interested in learning, the posts that contain short, to-the-point information are the most useful ones. He commented:

م ١٦ - مج: القصيرة، عشان ربما نحن كلنا عندنا نقص (في ال interest) في التعلم عموماً يعني نحن نفضل الشي القصير خلاص تخلصها وتروح يعني لو كان عندنا (interest) تقدر تقرأ صفحة راح تقرأها.

P16_FG: the short ones. It could be a fact that we (students) are generally not so interested in learning. I mean, we prefer the short thing that we can finish quickly. If we are interested enough in learning, then we might bear reading texts even if as long as a page.

While favouring the short meaningful tweets for learning was a common view among the participants, some of them claimed that learning some words could require more information, longer definitions and/or examples. For example, P33_INT indicated that when you want to know the important bits of information related to targeted words, then a short tweet could be enough. On the other hand, when you want to have deeper understanding of the targeted words, longer texts seem to be needed. He said:

م ٣٣ - مق: أحياناً لما تكون مثلاً تبغى مجمل، تبغى (ال conclusion) تلاقيها في المعنى كامل في تغريدة قصيرة، إذا كنت تبغى تفهم مثلاً تبغى تقرأ كثير يبغى لك كلام.

P33_INT: Sometimes, when you, for example, look for something concise. You want the conclusion. You find it in the comprehensive meaning... in a short tweet. If you intend to understand, you may want to read a lot. You need speech.

In the same vein, P32_FG remarked that it depends on the targeted word. He elaborated that short posts might be useful to help in learning some words while other words might require much more information, definitions or examples. He stated:

م ٣٢ - مج: على حسب ظروف الكلمة نفسها زي ما قلت، أحياناً كلمات سهلة تعرف من معناها مباشرة تستوعب الجملة مباشرة، و أحياناً في بعض الكلمات قد ما ينحط تحتاج لها تفصيل فتطول.

P32_FG: It differs from one word to another. Some words' meanings and usages are easy to learn. On the other hand, some words need much explanation and thus has to be long.

However, a variety of perspectives and conflicting discourses emerged when the participants commented on their experience of being restricted to 140 characters when writing their posts. For example, one interviewee indicated that while he will never read long posts, he does not like to be restricted to a certain number of characters when he writes. He mentioned:

م ٢٩ - مق: أتوقع أن الطويلة لا لا. ما راح أقرأ لكل واحد أنا يمكن ولا حتى وحدة لكن أنا لما أكتب أحب أخذ راحتني.

P29_INT: if the posts are long, I think no... no, I will not read for everyone... I might not even read a single one. But when I write, I do not like to be restricted.

Similarly, P33_INT pointed out that being restricted to a 140-character limit when writing was very challenging. He elaborated that the hashtag symbol and name consumes a few characters and thus he had to use the remaining characters to write the word, its definition and an example. He stated:

م ٣٣ - مق: في الكتابة تتعيني جداً. لأن الهاشتاق يبغى له كلمات والاسم يحتاج له كلمات فأعاني يعني حتى لما أجي أكتب مثلاً الكلمة ومعناها ومثال ومعناها بالإنجليزي تأخذ مني أشياء كثيرة.

P33_INT: it causes difficulty for me when I write because the hashtag symbol and name consumes a few characters which made it more difficult to include the word, its meaning and an example sentence in one post.

This view was echoed by another participant who detailed how and why the 140-character limit was challenging. He mentioned that the hashtag symbol and name consumes a few characters

and leaves less than 140 characters to write the word and its definition. As a result, the content of the post has to be shortened as much as possible. However, it is not as challenging when trying to post the word and its Arabic translation. He commented:

م ٣٢ - مج: المشكلة إنك تحصر في ١٤٠ حرف، (مثال) كلمة تعريفها يمكن حول ٧٠ أو ٦٠ حرف تعرف الكلمة، الجملة، فيمكن يجيك المجال ضيق شوية إذا إنك تبغى الكلمة مع التعريف بالإنجليزي، لكن إذا تبغى الكلمة مع ترجمتها مباشر بالعربي راح تكون أوكيه بالنسبة لي كانت مشكلة لأنه تضيق مساحة على # و بعدين تحط الكلمة ومرادفها وبعدين لمن تجي تحط المثال ما تقدر تعطي مثال طويل تضطر إنك تختصر.

P32_FG: the problem is that you get restricted to 140 characters. If we assume, for example, a word's definition will need 60-70 characters, the example sentence... so the space you have is very limited if you want to include the definition in one post. However, if you want to use word's translation in Arabic, it could be enough. It was a problem for me because the hashtag symbol and name consumes some characters which forced me to be as short as possible.

However, attempts to overcome this challenge were made. Some suggestions were also given. For example, P26_INT explained how he used to deal with the 140-character limit when writing his posts. He stated that he first writes and then carefully shortens the information to fit within the allowed limit and remain meaningful and useful as it should be. He stated:

م ٢٦ - مق: لما أنا أكتب طبعاً تجيني مشكلة لما أكتب وأوصل معلومة وكل شيء بس أنه طبعاً بعد ما أخلص ال ١٤٠ حرف أحاول أعدل في كلامي وأحاول أخصه لدرجة إنني أوصل المعلومة بدون ما أضيق أي شيء من الكلام اللي أبغى أوصله. أكتب ١٤٠ حرف و أوصل اللي أبغاه أحس أنه أحسن أفضل لي في التعلم وأفود.

P26_INT: When I write of course I face a problem... when I write to convey something ... and everything but of course when I am done with my 140 characters, I try to change my post in an attempt to condense my ideas in order not to lose any point I want to convey. Writing 140 characters that convey what I have in mind is better for me... it is better and more useful.

This view was echoed by another participant who discussed that he used to think of ways to write short and clear definitions of words. He mentioned:

م ٢٨ - مق: والله أنا واجهت مشاكل كثيرة مع عدد الحروف أحياناً يكون التعريف اللي يعطيه ولا اللي أخذته فيكون طويل أحياناً فيسوي لي مرة مشاكل فأحاول إنني أطلع من عقلي طريقة أحاول إنني أخلي التعريف واضح وقصير، أقصر من أول ولكنه واضح.

P28_INT: I encountered many problems regarding the number of characters... sometimes the definition I give (or have borrowed from somewhere else) might be long so it causes me lots of trouble.... So I try to come up with something myself to make the definition short and clear, shorter than before but at the same time clearer.

Interestingly, another participant said that he used to read his classmates' posts carefully to learn how to make his posts' content short and simple as theirs. He commented:

م ٦ - مق: مثلاً أنا قبل ما أغرد أقرأ تغريدات زملائي لأن في كلمات أنا كنت معد لها إنني أكتب لها أمثلة وجمل بس طويلة شوي فشفت تغريدات زملائي بسيطة فقلت أسوي زيهم أخليها جمل بسيطة.

P6_INT: For instance, before I tweet, I read my classmates' tweets. With certain words, I used to prepare long examples/sentences, which were longer than the ones used by others, so I decided to follow suit through composing shorter and simpler sentences.

Other participants used to write their posts using their preferred notebook application and then make a screenshot that they can share with their classmates as a photo. For example, P32_FG said that he used to post photos containing the texts that were longer than 140 characters. He stated:

م ٣٢ - مج: يمكن أضطر أخلي تغريدة على شكل صورة و أحطها إذا أنا أبغى الكلمة مع تعريفها بالإنجليزي مع الجملة.

P32_FG: I might need to post a tweet in the form of a picture if I want to provide the word, its meaning and a sentence example.

It was elaborated by P5_FG that he used to write in his notebook application and then make a screenshot that he could post and share with his classmates. He commented:

م ٥ - مج: بإمكانك إنك تعالجه مثلاً تخش الملاحظات و تكتب اللي برأسك و تصور الشاشة و تنزلها كصورة أشوف إنه هذه الطريقة الوحيدة انك تعالج فيها.

P5_FG: You can deal with it, for example, through going to Notes, and then write whatever is in your mind, take a snapshot, and then post it as a picture. To me, this is the only way to deal with it.

It was added by P16_FG that if a student does not like to share his longer post as a photo, he could divide his post into more than one tweet. However, he warned that dividing the post could confuse other classmates.

م ١٦ - مج: وحتى إذا تبغى تتفادى هذه وما تحط صورة تقسم، مثلاً تحط التعريف في الأول، تحط السينينمز في الثاني، تحط الجملة في الثالث، يعني تنتشت كذا التغريدات، فالواحد لمن يبغى يقرأ، ما يحصل أن هذه الاشياء مجتمعة.

P16_FG: Even if you want to avoid this (posting it as a picture), you might divide it up. For example, you post the definition in the first tweet, its synonyms in the second, and an example sentence in the third. So, you spread the tweets, and when someone wants to read about a certain word, he cannot find all these things together.

Also, he agreed with a suggestion given by P38_FG who assumed that increasing the number of the allowed characters to 300 could be more useful for learning purposes. It was elaborated that 300 characters must be sufficient to write more than one example and definition. Also, it was indicated that most students should find a 300-character post easy to read as it is not too short or long. He stated:

م ٣٨ - مج: ممكن نتكلم بشكل عام التعليم يعني مثلاً لو قلنا ٣٠٠ حرف يعني معقولة حتقدر تشرح بشكل مبسط جداً تكتب جملتين مثلاً تعريف تعريفين كلمة مثلاً (السننم) ٣٠٠ حرف الكل يقدر يقرأها أما لمن واحد يشوف دش (نص طويل) قدامه ولا حيفكر يقرأ أصلاً خصوصاً في التعليم نحن قدامك.

P38_FG: Generally speaking, in our educational system... for example, a 300-character saying is suitable for explaining a word in a very simple way. You write two sentences for example in addition to a definition or two definitions or another word (a synonym). 300 characters is something that everybody can read, but if someone sees a longer text, he will not consider reading it especially in our education, take us as an example.

5.2.5.5 Use of the hashtag feature to group and organise posts

Benefits of using the hashtag feature were referred to by many participants. For example, P15_FG stated that using one hashtag that grouped all related tweets was the most useful thing for learning targeted words.

م ١٥ - م: أعتقد أكثر شيء مفيد وجودها كلها في هاشتاق واحد ومجرد إنك تبغى تشوف الكلمات تدخل على الهاشتاق وخلص تطلع لي كلها كان هذا شيء حلو.

P15_FG: I think the most useful thing is that all of them (tweets related to the targeted words) are grouped in one hashtag and once you need to learn the words, you search this hashtag and you will find them all. This was very nice.

Similarly, but with more details, P20_INT described how the course hashtag grouped and displayed his classmates' tweets/posts and interactions in one place and how this way of grouping and organisation helped him to develop his vocabulary knowledge.

م ٢٠ - م: دخلت الهاشتاق قاعد أشوف الطلاب لمن يغرّدوا و زي كذا إستفدت من تغريداتهم، بعضهم يدريك معلومة غير عن الثاني فإذا كانت المعلومة تختلف من شخص لآخر تستفيد منها كمعلومة تحاول تجمعها باختلاف الآراء و زي كذا فاستفدت منها إستفدت كيف يستخدموها في جمل يستخدموها في مفردات يسووا يعني أشياء كثيرة يتناقشوا مع بعض.

P20_INT: I used the hashtag (the course hashtag)... I used to look at my classmates' tweets and so on. I benefited from their tweets. Each one gives different information (about the same word). Thereby, when you see different information (about the same word), you try to bring all information together and so on... so, I benefited from these... how they use it (a word) in sentences... they do many things... they discuss things together...

Also, P2_INT indicated that using one hashtag allowed him to negotiate with his classmates and receive constructive feedback from them.

م ٢ - م: هو يساعد لما تتناقش مع اللي معاك في الهاشتاق يساعد كثير وبعض الأفراد اللي في الهاشتاق يصحّحوا لك الأغلط زي ناصر صحّح لي كم غلط.

P2_INT: It (using the course hashtag) is helpful when you discuss things with other classmates. It helps a lot... and some of your classmates correct your mistakes... like Nasser who corrected a few mistakes that I have made.

Moreover, P18_INT compared Twitter with another social application. He described how the feature of using one hashtag helped him to view his classmates' tweets and interactions as a stream of tweets that were organised in a chronological order.

م ١٨ - م: هو مميز إنه أشوف أجوبة زملائي اللي في القاعة لأن في غير تويتر زي الواتس أب وكذا بتكون صعبة لأن هم يتكلمون كثير ويكون الكلام والتعاريف راحت فوق لكن في تويتر تلاقاه موجود على طول يعني أول ما تدخل البروفايل حق أي واحد من العيال تلقى التعاريف جاهزة أو إنك تبحث عن اسم الهاشتاق بس وتلقاها موجودة كلها على طول.

P18_INT: It is outstanding to see my classmates' responses (posts)... because in social media other than Twitter... such as WhatsApp and so on, it (seeing and following the tweets in a chronological order) would be difficult because they (his classmates) talk (post) a lot... and their posts, definitions would go up so quickly. But in Twitter, you can find it (what was searched for) immediately when you check a classmate's Twitter timeline... you find the definitions ready or when you search the course hashtag... that's it... you immediately find them (the definitions) all.

In addition, P28_INT explained how using one hashtag dragged his attention and encouraged him to see some of his classmates' posts even when he did not intend to do so.

م ٢٨ - مق: أول حاجة تويتر لما تجي بتحط الكلمات حتى لو انت أصلاً ماتبي تشيك على تغريدات أصحابك لابد و إنت بتحط حتلاقي أصلاً كم كلمة فتقرأها يعني من باب الفضول.

P28_INT: ... when you go to post the words (in the course hashtag), even if you do not intend to see your classmates' posts, you must, while you are posting, see some words (posted by classmates)... you read them... I mean... for curiosity.

5.2.5.6 Learner psychological factors and convenience

It was pointed out by the participants that the integration of the mobile microblogging to deal with their targeted vocabulary at their own convenience established a relaxed learning atmosphere. Consequently, this helped them to manage some of their psychological factors and saved their time and effort. For example, when he talked about his own experience of learning via the adopted mobile microblogging, P19_INT stated that this way of learning increased his feelings of comfort and reduced his feelings of anxiety and psychological stress.

م ١٩ - مق: هذا الشيء أفضل أتوقع. لأن الناس ماهي سوا صراحة. يعني أحياناً تطب لك في واحد و تلاقه مزعجك يعني لدرجة يكرهك الشغل كله، و أحياناً تطب لك في واحد بالعكس، على حسب. تويتر إنك إنفرادي شغلك وكيفك. على راحتك النفسية محد يفرض عليك رأيهم يقولك هذا غلط هذا صح هذا مدري ايش.. اوك أنا أنزلها و إذا فيه غلط يقولون لي بعدين.

P19_INT: This (working with others in Twitter) is better, I guess, because people differ... I mean, sometimes you will have to work with someone annoying to the extent that makes you hate all the work and sometimes you find yourself working with someone opposite to the previous one, it depends. In Twitter, you do your work individually and as you like... without being psychologically stressed... no body distracts you... saying this is wrong... this is correct and so on. I post, and then if there is any mistake, they can tell me later.

This view was elaborated by P26_INT who explained how the psychological factors could hinder active participation.

م ٢٦ - مق: ميزة تويتر إنه إنت شخص رمزي زي ما نقول نتكلم مع أي أحد في الوقت اللي يناسبك في المكان اللي يناسبك بدون أي إحراج. المشكلة في الفصل إنك لما تتكلم تخاف إنه هذا يزعل، تكون منرج من هذا، بعضهم يستحي حتى إنه يتكلم في الفصل. يعني من الأشياء اللي تشوفها إنه يكون إنسان عارف وعنده إمكانيات في الكتابة في تويتر. لكن في الفصل ما يتكلم إما إنه يستحي أو إنه أدب يكون عنده أو شيء زي كذا. هذه ميزة تويتر إنك تقدر تتكلم براحتك بدون ما أي أحد يعلق على كلامك.

P26_INT: The advantage of Twitter is that your name/nickname represents you, as it might be said. You talk with anyone at anytime, anywhere suitable to you without embarrassment. The problem is when you speak in the classroom, you feel afraid of upsetting someone and this makes one feel concerned. Others feel shy from speaking in the classroom. I mean, among the things you observe someone who knows and has capabilities write in Twitter but he never speaks in the classroom... either because he feels shy or he is very polite... this is the advantage of Twitter... you can talk comfortably... without hearing others commenting on your speech.

In addition, P37_INT assumed that using the mobile microblogging helped him to overcome his reluctance to learn from textbooks which he described as a psychological factor that hindered his learning.

م ٣٧ - مق: حتى سارت المسألة نفسية لو جبتها من الجانب النفسي أنا لمن أفتح الكتاب أحسه شوية ثقيل على نفسي لكن لمن أمسك الجوال اللي أنا أساساً ما عندي مشكلة أكون على طول أصلاً ماسكه أو شيء زي كذا ما عندي مشكلة أطلع أفتح تويتر و أشارك يعني مهى مشكلة، بسيطة يعني.

P37_INT: ... it (learning from textbooks) has become a psychological issue... if you look at it from a psychological point of view, when I open the book, it is a real bear... but when I hold my mobile device which I basically have no problem to use all the time... I carry it all the time or something like that... I have no problem to check Twitter and participate... I mean it is not a problem... easy, I mean.

Learning anytime anywhere and their association with personal preferences and psychological factors were discussed by P33_INT. He provided two reasons why using the mobile microblogging to learn vocabulary with his classmates was better than learning face-to-face with them.

م ٣٣ - مق: يمكن بعض الناس راح يستفيدوا. بس من وجهة نظري أنا ما راح أستفيد شيء. ليش؟ لأن أول شيء ما تكون البيئة المناسبة إنى أفكر في الموضوع أو شيء زي كذا. لأن الكلمة حتجيني بمعنى ثاني وحترسخ أكثر من معنى و حتتلخبط الأمور كلها عندي. فعشان كذا أواجه بعض المشاكل أنه حسب (معنى) التعلم يكون في بيئة أهم شيء تكون مناسبة، ثانياً، إنى أكون مرتاح، هذا أهم شيء عندي.

P33_INT: Some students may find it (working in a face-to-face group) useful but from my point of view, I do not find it useful at all. Why? First, I will not find myself in a suitable environment... thinking about the matter (learning/knowledge) because I might hear more than one meaning of a certain word and this might confuse me... I will face some problems... it depends... learning has to be in an environment... the most important thing is to be suitable. Second, I must feel comfortable. This is the most important thing for me.

The response urged for more details and thus the interviewer asked for more details about what he means by suitable environment. He responded that suitable environment means learning in a place and time suitable for him.

5.2.5.7 Extending classroom time

The participants' responses regarding extending their classroom time to approach their targeted words showed a sense of general satisfaction and appreciation. This was elaborated by P20_INT who expounded that learning ends once the class time ends. However, using a tool, such as the adopted mobile microblogging, enabled the participants to continue exchanging information and learning with no time limit.

م ٢٠ - مق: فعندما ينتهي وقت المحاضرة خلاص تنتهى المعلومة أما في تويتر خلاص المعلومة بتكون يعني للزمن اللي إنت تبغاه.

P20_INT: Once the time of the class ends, you cannot get any information you need for your learning... But in Twitter, there is no time limit and you can get information whenever you want.

Similarly, it was urged by P24_FG that due to classroom time limitation, using Twitter could help the students to exchange their ideas or support each other.

م ٢٤ - مج: أنا قصدي يكون في نفس تويتر لأنه عادة الكلاس يدوب نخلص الكلاس فأنا اتكلم عن نفس التويتر يكون فيه ممكن تصحيح أو مبادلة افكار في تويتر نفسه.

P24_FG: ... what I mean is to be in Twitter, since in class we barely have enough time during the class. So, we may correct each other's mistakes or exchange ideas on Twitter.

Also, P14_INT compared his experience in the previous Reading course with the current one. He pointed out that using the adopted mobile microblogging to approach the targeted words was useful in terms of saving classroom time.

م ١٤ - مق: فعلا أفادني يعني بالنسبة للترم الأول كنا نأخذ المعلومات ونترجمها في نفس الوقت، يعني اختصار وقت.

P14_INT: really, it was useful for me. In the first term, we were learning the words and translating them at the same time, but using Twitter saved our time.

Moreover, P1_FG discussed that using Twitter extends class time. That is, it enables the students to approach their targeted vocabulary before, during and after their regular class. He stated that:

م ١ - مج: أو حتى لما تخرج من المحاضرة تقدر تراجع الكلمات وتشوف يعني تويتر معك يعني تويتر أي وقت عندك ماله وقت حتى ينتهي.

P1_FG: ...even when the class ends you can use Twitter to revise the (targeted) words... I mean Twitter can be used any time and it has no time limit.

In addition, P10_INT indicated that using Twitter to approach vocabulary enabled the students to spend their time as desired while learning. There was no time limitation to worry about as in the case of the classroom.

م ١٠ - مق: بس في الهاشتاق نفسه الهاشتاق باقي يعني يمديك في أي وقت تدخل الهاشتاق و تشوف الكلمة مرة مرتين ثلاث أربعة خمسة و كمان لأنه الكلاس وقت محدد يعني ربع ساعة نص ساعة هناك في تويتر طول اليوم يمديك تخش يمديك تخش الهاشتاق و تتعلم الكلمة.

P10_INT: But with the hashtag, you can review the words once, twice, three, four or five times. Moreover, in the class there is a limited time, maybe 15 minutes or half an hour. However, with Twitter you have the whole day to review and learn the words.

5.2.5.8 Exposure to authentic usage of targeted lexical items

More than 75% of the participants indicated that the current mobile microblogging task increased their exposure to authentic usage of targeted lexical items and consequently helped them to develop their vocabulary knowledge. A lot of evidence indicating the participants' positive perceptions related to this sub-theme were found in the interviews and focus groups and will be illustrated with a few examples.

The need for exposure to authentic usage of lexical items was stressed by P35_INT. He explained that he lives in a country where English is not used. Therefore, he used Twitter to observe the usage of his targeted words in English speakers' tweets.

م ٣٥ - مق: نحن مو في مجتمع يتكلم كله انجليزي فأدخل أشوف كيف الناس يستعملوها، النايتف سبيكرز و زي كذا.

P35_INT: We live in a non-native speaking country where not everyone speaks English. So, I use Twitter to observe how people use it (a targeted word), the native speakers and so on.

Similarly, P8_INT indicated that using Twitter enabled him to be exposed to authentic language produced by native speakers. He illustrated how observing authentic usages of recently learned words in the Twittersphere developed his vocabulary knowledge.

م ٨ - مق: إني وصلت للأجانب اللي خارج البلد اللي يتكلمون انجليزي لغتهم الأم فيوم تبحث في تويتر، تشوف اللي لغتهم الأم إنجليزية كيف يستخدمون الكلمة، كيف الإنجليزي معهم، وكيف تويتر معهم. فأفادني هذا.

P8_INT: ...I reached to those abroad who speak English... their native language... When you search in Twitter, you observe how the native speakers of English use the word (a targeted word)... how they use English... this benefited me...

Appreciating the exposure to authentic language was also indicated by P9_INT. He emphasised the usefulness of learning targeted words by observing their usages in authentic language related to everyday life.

م ٩ - مق: هذه الأمثلة اللي يجيبونها من الناس أكيد تستفيد منها لأنها أمثلة مستخدمة في اليوم... إيو (نعم) لأنها أمثلة الناس كتبوها فتستفيد منها.

P9_INT: You benefit from these sentences (from Twittersphere) which they (classmates) share because they (the sentences) are related to things that occur in everyday life... Yes, because these sentences were written by people... so you get benefited.

Moreover, P19_INT argued that being limited to the context of the textbook would disconnect you from the real world and consequently, you would not know how people use the language. To support his argument, he explained that there are some words that are difficult to be learned without being observed in authentic contexts. It seems that he was referring to issues that might include cultural connotations or informal uses of a word.

م ١٩ - مق: في بعض الكلمات ماتعرف معناها إلا إذا عشت عندهم. إيو (نعم) إستعمالهم لها غريب. في تويتر كأنك معاهم يعني تشوف يعني حياتهم، ليش كاتبين، ليش معلقين، تغريدات.. أي شيء تشوفه عندهم والا أول مثلاً تخيل إن كنا في كتاب و عاد ما أنت داري إيش راح يصير برا والا إيش كاتبين العالم، في كتابك وبس.

P19_INT: You will not be able to know the meaning of some words until you live with them (native speakers)... they use it in a strange way... in Twitter, you feel as if you are among them... you see how they live... why they write, comment or tweet in a certain way... you see everything as it is used by them. To the contrary, imagine, we are only had the textbook... you never know what is happening outside (real world) or what English speakers write... in your textbook and that's it.

Furthermore, P20_INT indicated that learners do not have to limit themselves to the course hashtag and classmates' tweets. He believed that exposure to authentic usages of a lexical item can be attained by searching it in Twitter. Also, he argued that learners might find their targeted words used in tweets related to their own interests, such as sports or music, which will make learning more interesting.

م ٢٠ - مق: لا مو في نفس الهاشتاق لا انت مجرد ما تبحث في تويتر عن أي كلمة حتجيك معلومات كثيرة عنها مرة.

فأنا أشوف المعلومة اللي تجذبني تجذبني أكثر وأكثر وأقرأها كثير و حتى ممكن أبحث عنها كثير.

P20_INT: Not only in the course hashtag, just when you search for any word your search will show so many examples. So, I look for the examples that contain information about something I am interested in... I read about it more... I might search about it more.

In the same vein, P10_INT indicated that exposure to authentic usage of the targeted words in tweeted Quotes helped him to have better learning. This is because he likes Quotes.

م ١٠ - مق: تعجبني أكثر شيء الكوتس هذه اللي بسموها المقولات يعني زي ما تقول الكلمات تكون أحسن يعني.

P10_INT: ...What I like the most is what is called Quotes. I mean, what it can be said, (learning) the words (targeted words) will be better.

The effect of the exposure to authentic usage of lexical items on vocabulary learning was indicated by P28_INT. He clarified that observing the usage of a targeted word in authentic contexts helps learners to learn different aspects of knowledge related to that word.

م ٢٨ - مق: والله حلو إن الواحد يشوف لأن إنت تشوف طريقة تفكيرهم كمان في استخدام الكلمة، فلما تشوفها إنت خلاص تأخذها بالتفكير اللي عندهم، لأن أحياناً إنت تحسب الكلمة ومعناها زي كذا، و لكن بعض الناس يفهموها بطريقة ثانية، لأن إنت تعرف، لغتهم هم في النهاية.

P28_INT: It is nice that one can observe... because you also observe their way of thinking when they use the word. Thereby, when you see it (a targeted word), you acquire the word and their way of thinking... Because, sometimes, you think of a word and its meaning in a way but some people understand it in a different way... at the end, it is their own language as you know.

In addition, P1_FG and P4_FG agreed to the idea that the most useful step in the mobile microblogging task was searching for and reading the targeted words in real examples that were posted by real people. Their agreed view indicated that the best way to learn the usage of a second/foreign language is to learn it from the native speakers of that language.

م ١ - مج: أنا أشوف إنه البحث عن الناطقين باللغة الإنجليزية و المهتمين بالإنجليزية لأنهم أكثر علم هما عندهم اللغة الأم أحسن يعني إحنا نتعلم هذه لغة ثانية مهي لغتنا الأم فهم يعني أفضل منا فيها و أفضل طريقة إننا نأخذها من الناطقين باللغة الإنجليزية و الممارسين لها لأنها لغتهم الأم هذه وجهة نظري.

P1_FG: I think searching and reading the posts of English native speakers and those interested in English language was the most useful step. This is because they have better knowledge (related to language use)... so, they should be better than us in English. From my point of view, the best way to learn English is to take it from native speakers...

5.2.5.9 Social learning facilitation and benefits

Facilitating social interaction was among the features that seemed to increase the participants' engagement with their targeted vocabulary items. It made it possible for the participants to interact in the Twittersphere with one another, with their teacher or with others in the Twittersphere. Also, this feature enabled the participants to share their knowledge, and to provide and receive scaffolded support. Some examples reflecting the participants' views from the interviews, focus groups and weekly reports will be displayed and explained.

The three comments below illustrate that the adoption of the mobile microblogging encouraged the participants to interact with one another, with the teacher/researcher and with English language speakers in the Twittersphere. As indicated by one of the participants, the adopted tool enabled the students to interact comfortably with one another. He commented:

م ١١ - مج: وفر لك مكان تتكلم فيه زي ما تبغى براحتك تقول اللي عندك تقول اللي تبغى.

P11_FG: It (Twittersphere) offered us a place to comfortably talk as much as we want to. You share what you have in mind and you say whatever you want.

Interacting with teacher, which is usually limited to regular class time and how it can motivate the students to engage and learn, was referred to by another participant, who said:

م ٧ - مج: هو دافع إذا الدكتور شاف و مدح أو أعطاك مفضلة أو شي كذا بيكون في دافع أنه و الله الدكتور شاف تغريدتي الدكتور مهتم بشوف معانا.

P7_FG: It could be motivating if the teacher sees your post, praises it, likes it or something like this. This would be definitely motivating. So if this happens I would say the teacher sees my tweets, keeps himself posted and thus he is taking it seriously.

Interestingly, some participants remarked that the adoption of the mobile microblogging tool encouraged them to think of making relationships with English speakers with whom they could interact in the Twittersphere or by other social networking tools. For example, one interviewee stated:

م ٢٠ - مق: على سبيل المثال دحين جون حلو أنا كلمته جون آدمي (إنسان) مثقف سويت له فلو حلو رجع سوا لي فلو باك طيب أرسلت له رسالة خاصة جون ممكن نتحدث.

P20_INT: For example, John, whom I was in touch with, is an educated (cultured & cultivated) person. I followed him and then he followed me as well, then I sent him a message and asked him if we can chat.

Positive views related to utilising the mobile microblogging tool to approach targeted vocabulary and share related knowledge with one another were expressed by more than two thirds of the participants. For example, one participant reported that it was wonderful to be able to observe his classmates' posted examples. He reported:

م ٢٤ - تق: تجربة جميلة هذا الأسبوع خاصة أنني رأيت أمثلة الشباب، كانت تجربة مميزة - الطالب قام برسم وجه سعيد-

P24_WR: It was a nice experience this week especially when I saw my colleagues' examples. It was an excellent experience – the student drew a smiley face.

Another example was provided by P30_INT who added that encountering a recently learned word used in a sentence composed by another classmate could increase his understanding of that word.

م ٣٠ - مق: بعض الأحيان أشوف جملة، الجملة نفسها تفهمني الكلمة أكثر من اللي أنا فاهمها.

P30_INT: Sometimes I see a sentence that explains the word way better than what I already know about it.

In relation to these views, P10_INT alluded to the benefit of group learning and how it helps to increase a student's vocabulary knowledge. He elaborated that reading some of the other classmates' posted examples was helpful not only to consolidate his knowledge of recently learned words but to increase his knowledge of additional new vocabulary items. The comment below illustrates his view.

م ١٠ - مق: الفائدة إنك تشوف مثال ثاني يعني مو مثال زي اللي حطيتك إنت، يعني يمكن يكون في نفس المثال هذا كلمات يمكن ما كنت أعرفها لأنني أقرأ لبعض الزملاء فأنا أبحث عنها عشان أعرف إيش معنى الجملة كيف حط الكلمة هذه في الجملة نفسها فيسير الفائدة فائدتين.

P10_INT: The benefit comes when you see another example, other than the one you have posted. It might be the case that in this new example, there are words which I don't know but were used by my colleagues so I go and find their meanings in order to understand their sentences and therefore the benefit will be doubled.

Moreover, P14_INT suggested that online group learning offered him a distinct opportunity to compare his existing knowledge about recently learned items with that of other classmates, and consequently add further to his own knowledge about the items in hand.

م ١٤ - مق: يعني أقارن المعلومة اللي عندي مع المعلومة اللي عند زميلي. أقارنها أشوف إيش الأفضل وإيش لا. ممكن من خلال هذا الشي نستنتج معلومة.

P14_INT: I mean... I compare what I have in mind with what my colleague has in mind, and then decide which one is better. Doing this, we would be able to draw certain conclusions.

Furthermore, P22_INT assumed that learning with other classmates in the Twittersphere is similar to learning with them in the regular classroom. He exemplified that students can exchange knowledge and correct one another in the Twittersphere as they would do when they are in the classroom. Yet, he pointed out that the amount of interaction in the Twittersphere could be higher than that in the regular classroom.

م ٢٢ - مق: هو مفيد، يعني كأنك في نفس الكلاس. يعني مثلاً تغرد يرد عليك. في غلط يصحح لك بس يعني يمكن في (الفصل) بعضهم ما يردوا لكن في تويتر أي أحد ممكن يرد، أي وقت.

P22_INT: It is useful, I mean... as if you are in the same class. I mean... you tweet and others respond to your tweet... You will get corrected if you make mistakes... But in a classroom, some students might not respond (take part in the discussion) while on Twitter anyone responds anytime he wants.

In addition, P7_FG assumed that absence of the current adopted tool could impact the participants' learning outcomes negatively as it facilitates interaction with other students. He argued:

م ٧ - مق: أتوقع إذا راح تويتر يضرنا، لأنه استفدنا منه شيء كثير لقيت ناس تشارك معاهم، حيقل هذا الشيء و أتوقع أنه يضرنا.

P7_INT: I guess we will be negatively affected if Twitter stopped because we benefited from using it so much... you found people to participate with... this will be reduced and thus affect our learning (negatively).

Comparing their experiences of group learning in a regular face-to-face classroom with learning in the Twittersphere, the participants discussed how the adoption of the current tool increased their interaction focused on the targeted vocabulary items. For example, P27_INT discussed that utilizing the adopted mobile microblogging tool will lead to a better group learning experience if compared to a regular face-to-face classroom. He indicated that using Twitter as a mobile microblogging tool provides students with more time to learn, understand, find relevant information and read others' posts before they write their own posts. On the other hand, in a regular face-to-face classroom, students seem to be reluctant due to some issues, such as losing face. He stated:

م ٢٧ - مق: تويتر حيقلي الموضوع أفضل من ناحية العمل الجماعي، لأن الناس في الكتابة (التغريدات) تحب تتطلع على القاموس والمترجم، تحب توظف الكلام من عندها. أما إذا كنا في فصل أبدأ الجميع مراح يشارك فيه ناس يشوفوا مستواهم أقل من مستوى الطالب الآخر فيخاف حتى لو كان عنده إجابة صحيحة يخاف إنه يقول إجابة خاطئة يمكن تسبب مشاكل يعني أو إحراج. فأنا شفت تويتر أفضل لأنه بتتكلم بأريحية وتأخذ راحتك، تقرأ تغريدات الناس وتعرف إيش توظيف الكلمة.

P27_INT: Twitter will enhance group work and make it better, because students prefer to check the dictionary and other means of translation before they compose a tweet, they also themselves try to use words in certain contexts. But if we were in a classroom, definitely not all students will participate. Some students look down at their level if they compare with others around them, and therefore become reluctant to participate even if they have the right answer in mind. Some are afraid of making mistakes, which will cause them problems, or embarrassment. Thus, I see that Twitter is better as you speak comfortably. You read others' tweets and know how to use words meaningfully.

This view was echoed by a number of other participants. For example, the discussion of five participants in one of the focus groups shed light on different dimensions related to online and face-to-face group learning. One of the students stated that face-to-face group learning is better from his own perspective as this would offer the learners a chance to cover different aspects of word knowledge while in the classroom. In effect, this participant compared this to online group learning which, in his view, allows some learners to post about certain aspects of word knowledge without the need to get involved in further discussions.

م ١ - مج: أتوقع إنها طريقة أفضل من الهاشتاق لأنه نناقش الكلمة ونتباحث فيها أكثر أكثر من مجرد إنه نخط الكلمة في الهاشتاق ونمشي بس خلاص حتى نتباحث في الكلمة مدام إنه نحن فيس تو فيس.

P1_FG: I think it (face-to-face) is a better way, better than using a hashtag because we can discuss a certain word and investigate it more deeply... It is more than just putting the word in a hashtag and that is it. We would rather discuss the word further in a face-to-face setting.

In response to P1_FG, three participants expressed complete disagreement and one expressed partial disagreement. Each of the four participants provided at least one reason in support of his

opinion. For example, one of the three participants raised the concern of feeling reluctant and afraid of making mistakes in front of others, losing face, which was raised earlier by P27_INT. He stated that:

م ٤ - مج: ما أتوقع إنه أفضل ما أتوقع لأنه ترجع الرهبة والخوف من الخطأ، الكلام يقل، في تويتر أفضل وأريح تراتح عادي ما تحس برهبة المدرس أو المعلم يكون أريح لك.

P4_FG: I don't think that it (face-to-face) is better; I don't think so because anxiety will be back again. Being afraid of making mistakes while you speak is less on Twitter. Twitter is better, more comfortable, and more beneficial. You take it easy, you don't feel anxiety which might appear as a result of the teacher's presence; I believe it is more comfortable.

The other two participants suggested that students could be restricted to limited resources of information when they learn together in classroom, while learning via the mobile microblogging tool enables online searching and exposure to authentic language produced by English speakers.

م ٧ - مج: في الكلاس ما راح تلقى مكان تبحث فيه عن الكلمة أو تقرأ لناس كاتبين عن هذه الكلمة ما تقدر توصل لناس آخرين.

P7_FG: Inside a classroom, you will not find an opportunity to search for the word, or read examples of it written by others. You do not reach out to people other than your classmates.

The last participant who expressed his partial disagreement with P1_FG denoted that using the current online tool to approach vocabulary items is better. However, it does not facilitate learning the pronunciation of targeted words.

م ١١ - مج: أكثر شيء تستفيد في الكلاس هو النطق لكن في التويتر أفضل لكن في الكلاس زي ما قلت النطق إذا كان نطقي غلط إنت (المدرس) تصحلي.

P11_FG: The most useful thing in the class is that you benefit from pronunciation but in Twitter it (learning) is better but as I said regarding pronunciation, if I make a mistake, for example, you (the teacher) correct me.

The last four extracts confirmed the potential benefit of using the focus group method. Specifically, the complete and partial disagreement expressed by the participants in relation to online and face-to-face group learning show how using this method can stimulate thinking, aid in recalling more details and shed light on different dimensions related to the discussed issue.

A number of other positive issues surrounding social support which resulted from social interaction and online group learning facilitation were also identified. These include providing and receiving different kinds of social support, such as scaffolding, correction and encouragement. In their accounts of these issues, the majority of participants showed that the adoption of the mobile microblogging tool to approach targeted vocabulary materials helped them to have a better learning experience as well as outcomes. For example, one interviewee indicated that learning in a group is beneficial for students because when one makes a mistake, others will correct him. He claimed that:

م ٣٣ - مق: طبعاً مفيد لأنه هو حلتعلم. حتى لو كان عندك غلط حيلموك ايش هو الصح.

P33_INT: It is definitely useful because you will learn... even if you have a mistake, they will tell you what is correct.

This view was echoed by P4_FG who stated that learning in a group gives students the advantage of seeking help from other students in the group when they encounter something difficult to understand or if they need any kind of support.

م ٤ - مج: ممكن تسال زملاء عن تغريداتهم يعني إذا منت فاهم حاجة عاد تسال أي أحد لأنه في أحد يساعدك.

P4_FG: you can ask your classmates when you do not understand... you can ask anyone... the point is that you can find someone to help you.

Some participants offered evidence of direct scaffolded help they received from other more knowledgeable classmates. In this case, the participants either asked others for help or received direct help from another classmate. Also, the participants remarked on how quick and useful the help they received was. For example, one participant explained:

م ٣٦ - مق: ساعدوني نعم ناس أعلى من مستواي وساعدوني على طول وشرحوها لي بشكل بسيط.

P36_INT: ... they (classmates) helped me. Their level was higher than mine. They helped me instantly and explained it (a word) to me in a simple way.

There was also evidence of indirect scaffolded help. In this case, the participants would recognise that they made a mistake(s) through reading their classmates' posts and consequently they would go back and correct the mistake(s) in their posts. This was explicitly stated by P26_INT in his comment below.

م ٢٦ - مق: قرئت تغريدة من تغريدات زملائي ورجعت صلحت التغريدة حقتي حذفت التغريدة ورجعت غردت مرة ثانية بعد ما قرئت تغريدة زملائي.

P26_INT: I read a Tweet composed by one of my colleagues and then I changed/corrected my tweet... I deleted my tweet and then tweeted again after reading my colleagues' tweets.

And, in one of his weekly reports, another participant reported:

م ١٤ - تق: كان لدي خطأ إملائي وقمت بتعديله بعد المراجعة.

P14_WR: I had a spelling mistake. I corrected it after the revision.

Additionally, a number of the participants were able to identify some advantages of providing and receiving support when learning in a group. For example, it was pointed out by P14_FG that sometimes a student might not be aware of his mistake(s) until someone corrects it/them for him. He said:

م ٢٤ - مج: هذه إضافة بأنه التصحيح أنه نصح لبعض لمن واحد يصحح لي كذا أعرف إنه أنا عندي غلط.

P24_FG: This is a plus. We correct one another, and when somebody corrects me I know that I have a mistake.

Another example was offered by P38_FG who argued that when one corrects another classmate's mistake(s), the corrected information will become firm and difficult to be forgotten.

م ٣٨ - مج: ومن ناحية الترسخ برضوا لمن يجي أحد يصحح للثاني جملته حترسخ جملة المصحح حترسخ أكثر.

P38_FG: And regarding further establishing words in your mind – when someone corrects a sentence for someone else, the correct sentence will become firmly established.

However, a very small number of the participants expressed concerns about learning in a group with others. Their expressed concerns can be attributed to two reasons. First, some were particularly critical of learning in online environments due to different issues, such as learning styles, learning preferences, etc. Second, some stated explicitly that they prefer to work individually.

5.2.5.10 Fostering a more autonomous and student-centred vocabulary learning environment

The participants' responses in the interviews and focus groups illustrated that using the mobile microblogging tool and task fostered a more autonomous and student-centred vocabulary-learning environment. In further details, it was indicated that the adoption of mobile microblogging helped the participants to be more active and responsible learners. Also, it gave them the choice to decide when, what and how to learn. Moreover, it encouraged the use of mobile microblogging to achieve personal learning goals, such as using mobile microblogging in other courses and learning a third language. Some examples reflecting these elements will be displayed and explained.

P14_INT stated that the adoption of the mobile microblogging tool helped him to take more responsibility for his vocabulary learning rather than relying on his teacher.

م ١٤ - مق: يعني الكلمات اللي أترجمها وأدرسها بنفسي طبعاً بعدها بفترة أدرسها مع الدكتور. يعني المعلومة اللي عندي مع المعلومة (التي ذكرها المدرس) وهذه من الطرق اللي ساعدتني.

P14_INT: I mean, the words I translate and study by myself and then I study them again with the teacher... I mean the knowledge I already have with the knowledge I obtain from the teacher... this is one of the ways in which Twitter helped me.

In the same vein, using the mobile microblogging seemed to help the participants to be less teacher-centred. For example, P26_INT pointed out that he did not need to ask his teacher for words' meanings because he had already learned them via the mobile microblogging task.

م ٢٦ - مق: كان (إستخدام تويتر) يخلي الشخص يحضر الكلمات قبل ما يجي الكلاس والشئ هذا نادراً ما الطلاب يسووه، إنه الإنسان يحضر ويشوف الكلام اللي عليه ويشوف الكلمات اللي عليه، هذا الشئ فادني كثير صراحة. وكمان الشئ الثاني اللي هو إنه في الكلاس نفسه بدل ما كنت اسأل الدكتور والا أستفسر منه عن كلمة والا كلمات أكون أصلاً قد قرئت وعرفت معناها.

P26_INT: it (using Twitter) allowed the student to study and prepare the words before attending the class, which is something students rarely do... that is a student prepares the

words he need to learn. That was so useful for me. The other thing is that during the class, I rely on my knowledge from reading and learning words' meaning instead of asking the teacher about one word or more.

Deciding to learn as well as how to learn were also reflected in the participants' responses. For example, P18_INT explained that he decided to utilise other tools, such as Google and specialised websites instead of Twitter to find the definitions of the targeted words and examples. However, he used Twitter to search and observe the use of recently learned words, including targeted words and words he decided to learn.

م ١٨ - مق: بس أنا التعاريف وهذا كنت أجيبها من قول، فيه مواقع خاصة للتعاريف والمرادفات بس ماكنت أجيبها من تويتر، حتى الأمثلة ما كنت أجيبها من تويتر، بس كنت أبحث عنها في تويتر وأشوف أمثلة الناس، بس أستخدم نفس طريقة تويتر في الكلمات هذه حتى لو أنت ماحدثتها لنا.

P18_INT: ... But I used to find the definitions (of targeted words) using google... there are specialised websites for definitions and synonyms. I did not use Twitter for that... I did not use it to find examples. I only used Twitter to search words and observe how they are used in authentic sentences, even for words you did not ask us to learn.

Moreover, using the adopted mobile microblogging tool to achieve personal learning goals was reflected in the participants' responses. P35_INT stated that he started to use Twitter daily to learn words he decided to learn.

م ٣٥ - مق: حتى الآن أحياناً بستخدمه لما كلمة ما أعرف أستخدمها أسوي لها بحث في تويتر وأشوف كيف الناس تستخدمها. أستخدم هذه الطريقة عجبتني. فكرة إنت قلتها عجبتني. بستخدمها تقريبا كل يوم.

P35_INT: Still until now I sometimes use Twitter when I encounter a word that I do not know how to use. So, I search it in Twitter and see how people use it. I use this method because I like it. I almost use it daily.

In addition, the adopted mobile microblogging tool was used for learning French, as a third language. P20_INT explained that he decided to use Twitter to search and learn targeted French words and their usages. He denoted that becoming aware of how to utilise the adopted mobile microblogging for personal goals motivated him to enrol on elective French language course.

م ٢٠ - مق: بحثت عن بعض الكلمات زي الكتاب أو شيء زي كذا (كلمة بالفرنسي) طالب أو شيء زي كذا وهيا أصلاً من بداية الفصل أنا تعمقت فيها من بعد ما شفت تويتر والبرنامج حقكم وشي زي كذا ودخلت اللغة الفرنسية اللي هي مقرر اختياري قسم اثنين وحاولت أدخل مع اللغة الفرنسية لأنني خلاص يعني مرة أحس إنني تعمقت فيها.

P20_INT: I searched some (French) words such as book, student and the like. Basically, I have started to deepen my knowledge (in French) since the beginning of the semester, immediately after knowing about the way of using Twitter for learning. Also, I joined the elective French course II because I felt that I went steps further with my French language.

Finally, P9_INT indicated that what he learned from his experience of using the mobile microblogging to approach targeted vocabulary are skills that he acquired and would continue to use in the future to deal with new words he might encounter.

م ٩ - مق: بس في نفس الوقت أنا الآن حتى لو ماتكرر معي نفس الهاشتاق، تعلمت إنني أكتب كلمات وأبحث عنها في تويتر وأستفيد منها.

P9_INT: But at the same time, even if we won't use the hashtag idea again, at least I have learned how to use and search for words and their meanings in Twitter.

5.2.6 Effect of using mobile microblogging on learners' engagement with vocabulary

This theme is a predetermined theme and includes four sub-themes as illustrated in Figure 4. This theme is related to the impact of using the adopted mobile microblogging tool and task on the participants' engagement with their targeted vocabulary. The participants indicated that the adoption of the mobile microblogging tool offered them a substantial opportunity to engage with their targeted vocabulary. The participants' views with a few examples will be presented under each one of the sub-themes.

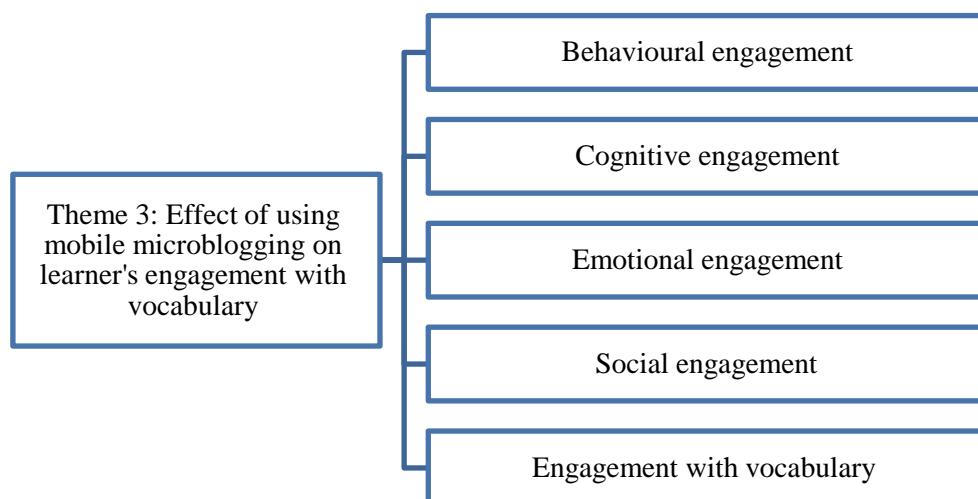


Figure 4: The theme and sub-themes are related to the effect of adopting the mobile microblogging task on learner's engagement with vocabulary

5.2.6.1 Behavioural engagement

Behavioural engagement refers to the participants' effort and involvement in the mobile microblogging task. It is reflected in the current task by participating in the mobile microblogging activities. This incorporates accessing Twitter to read others' posts, search for and exchange targeted-vocabulary-related information. The participants' views in the interviews and focus groups have indicated that the current task had noticeably helped to promote their behavioural engagement. These views are illustrated in the following examples.

Reading classmates' tweets that contained the targeted words reflected the basic level of participants' behavioural engagement in the mobile microblogging task. P17_INT, who did not make any posts during the research intervention, mentioned that he used to observe the targeted words, their meaning(s) and examples in his classmates' tweets. His comment indicated that he used to check the course hashtag once to read his classmates' tweets.

م ١٧ - مق: لا، بعد ما تنزل الكلمات أنزل تحت إلى آخر تغريدة وبعدين أوقف.

P17_INT: ... I read until the last tweets before I stop.

Similarly, P19_INT explained that he used to check Twitter many times to observe the targeted words in his as well as in his classmates' posts.

م ١٩ - مق: لا، تويتر غير كذا مرة، يعني أحياناً لما أكون طفشان مثلاً أفتح تويتر أقرأ و أقلب في الكلمات التغريدات حقّي أشوفها ثاني، متذكرها.

P19_INT: It is different in Twitter, many times... I check Twitter, I read, I check the (targeted) words, I see my posts again... I still remember them.

A higher level of engagement was reflected by P18_INT. He expressed his persistence to learn and develop his vocabulary knowledge by posting and sharing his knowledge followed by checking his classmates' tweets. He explained that he used to keep checking in the same day or the day after to read his classmates' new posts.

م ١٨ - مق: أكيد أنا أكون بعد ما أنزل الكلمات بعد ما أخلص منها حقّت الأسبوع هذا أروح أشوف تغريدات أصحابي. و إذا ما نزلوا شيء أشوف بعد يوم، أو بعد خمس ست ساعات، زي كذا.

P18_INT: Of course, after I post the targeted words of the week, I check what my classmates post. If they have not already, then I check again after a few hours or the following day.

It was added by P33_INT that he used to intentionally check his classmates' tweets two to three times a week because he realised how reading his classmates' tweets had a positive impact on his vocabulary and language development.

م ٣٣ - مق: أول شيء تويتر فادني في إني صرت أتعلم من أصحابي، يعني فيه بعض التغريدات منهم، إني أتعلم بعض الجمل أو الكلمات، إنها تتطور في اللغة عندي في الإنجليزي، يعني خلاني معظم وقتي إني مثلاً أحياناً أخلّي في الأسبوع يومين إلى ثلاث أيام أدخل على تويتر أشوف الهاشتاق أو أشوف أصحابي إيش كاتبين و زي كذا.

P33_INT: First of all, Twitter benefited me in that it enabled me to learn from my classmates. I mean, I learn some sentences or words from their Twitter posts... my English language improves... It made me... most of my time... for example... sometimes... I check the course hashtag or check what my classmates have posted. I do this two to three times during the week, and so on...

Also, P3_INT described his practices during the research intervention and linked them with the increase in his vocabulary. His description indicates that he noticed that his vocabulary was improved as a result of his behavioural engagement.

م ٣ - مق: بعد التجربة هذه، صار عندي بعض المفردات الكثيرة لأن كل بعد ما كنت ترسل في الهاشتاق كنت أكتب الكلمات و أحفظها ويعني بعد كل أسبوع كذا أسوي نفس الطريقة إلى أن صار عندي كثير من الكلمات. يعني أفادنتي كثيراً.

P3_INT: ...After this experience, I acquired lots of vocabulary. Because I used to post the words and memorise them, and I do the same every week... the same thing. As a result, I acquired lots of words. I mean it (using mobile microblogging) benefited me a lot.

Moreover, P28_INT elevated two interesting points that he believed to be associated with his vocabulary development. First, he felt to be driven, out of curiosity, to check his classmates' tweets every time he wanted to post. Consequently, P28_INT' behavioural engagement with his targeted vocabulary appeared to be promoted accidentally.

م ٢٨ - مق: أول حاجة تويتر لما تيجي بتحط الكلمات حتى لو إنت أصلاً ماتبيغي تشيك على تغريدات أصحابك لابد و إنت بتحط (تقوم بالتغريد) حتلاقي أصلاً كم كلمة فتقرأها يعني من باب الفضول.

P28_INT: ... When you go to post the words (in the course hashtag), even if you did not intend to see your classmates' posts, you must, while you are posting, see some words (posted by classmates)... you read them... I mean... for curiosity.

The other point, P28_INT mentioned, is related to the amount of involvement with the targeted lexical items. He argued that putting more effort into learning a lexical item by using it in a sentence example is more beneficial than just posting and sharing its definition. It can be assumed that behavioural engagement is reflected in his point by fulfilling the mobile microblogging task structures.

م ٢٨ - مق: وغير كذا إنه إنت الآن بتحط لها (للکمة) تعريف و مثال، هذا كذا يعني إنت سويت شينين.

P28_INT: ...Other than that, when you post a word's definition then write an example. You have done two things (related to learning a word).

In the same vein, P1_FG stated that being engaged with the targeted words by searching and reading about them in Twitter was very useful. However, he argued that it will be more useful if a learner reads, searches and posts about the targeted words.

م ١ - مج: بالنسبة لي طبعاً و أكيد فيه فائدة لأنك إنت تبحث عن الكلمة و تبحث عن معناها و تكتشف إنه الكلمة لها أكثر من معنى حتى لو ما كنت تشارك تشوف الهاشتاق و مشاركات الزملاء حتستفيد ، لكن لو شاركت حتستفيد أكثر.

P1_FG: ... even if you do not post, it will be useful. This is because you search about the word and its meaning in the course hashtag and classmates' tweets. You discover more than one meaning of some words. However, your benefit will be much more if you post (anything related to a targeted word).

In addition, P6_INT and P21_INT discussed how the adoption of the mobile microblogging task to supplement the regular vocabulary learning practices has promoted learners' behavioural engagement with their targeted vocabulary. P6_INT compared relying on the textbook with relying on the adopted mobile microblogging tool to learn targeted vocabulary. His comparison indicates that using mobile microblogging increased his chance to engage with the targeted words, compared to the textbook.

م ٦ - مق: فالجوال دائماً في يده، يستفيد في أي وقت. إذا مثلاً الدكتور طلب منك تتعلم عدة كلمات حدد لك الكلمات من الكتاب ممكن ما تفتح الكتاب في البيت ما تستفيد لكن الجوال معاك 24 ساعة في يدك يعني شيء أكيد راح تتعلم.

P6_INT: ...the mobile device is in his (a student's) hand... he can benefit at any time. For example, if the teacher asked you to learn some words... selected some words from the textbook, you might not open the textbook at home... you will not benefit but because your mobile device is 24 hours in your hand... I mean you will learn for sure.

In the same way, P21_FG compared his experience of learning vocabulary in the current research intervention with his vocabulary learning experience in the previous Reading course. He explained that searching about a word, reading classmates' tweets noticing how the words were used and using the words in examples helped him to have better retention.

م ١٢ - مج: أكيد استفدت من تجربة تويتر لأنني درست Reading I وعرفنا كلمات يعني ما رسخت زي ما رسخت الترم هذا يعني لأنه فيه إنك تبحث عن الكلمة وتشوف زملائك كيف استخدموها وتشوف وتحط (تكتب وتغرد) example وكذا تكون تتحفظ أكثر في مخك.

P21_FG: of course, I have benefited from Twitter's experience. I mean when we studied the reading book 1 and learned some new words we could not memorise them as we have done this term. Because with learning the targeted words by using Twitter, you search about them, give examples, and see how your classmates use them, so that way helps you to memorise them easily.

5.2.6.2 Cognitive engagement

Cognitive engagement refers to the participants' "psychological investment in and effort directed towards learning, understanding, mastering the knowledge, skills or crafts that the academic work is intended to promote" (Newmann et al., 1992). It is reflected in the current task by the participants' effort directed towards learning unknown words' meanings and usages. This involves "a comparison of a given word with other words, a specific meaning of a word with its other meanings, or combining the word with other words in order to assess whether a word (i.e. a form-meaning pair) does or does not fit its context" (Laufer & Hulstijn 2001, p. 14).

The participants' views in the interviews, focus groups and weekly reports have indicated that the current task had noticeably helped to promote their cognitive engagement. For example, P24_FG detailed how he used to deal with new words and how the current mobile microblogging tool helped him to achieve better learning and understanding. His comment below shows that when learning a word, he used to spend effort to find more than one meaning, encounter different word usages in different contexts, compare the meanings and choose the one that fits its context and finally compose a sentence example.

م ٢٤ - مج: أنا بالنسبة لي لي خطوات في كتابة الكلمات، أول شيء أترجم الكلمة أشوف كم معنى لها بعددين أشيك على الكلمات كيف استخدمها الناس في التويتر، فأسير أفهم الكلمة وكيف استخدمت في نفس الجملة وكم أفهم الجمل نفسها بعد ما أفهمها أبدأ أحط المعنى اللي خلاص أتأكد عندي بعددين أسوي الجملة.

P24_FG: For me, there are certain steps for learning words. I firstly translate the word to figure out how many meanings it has, and then I check how other people use it in Twitter... So, I understand the word, how it can be used in a sentence, and I also understand the sentences (provided by other students). After this, I will understand the word and will start using it in the sense I have got in my mind, and finally I write my sentence.

Additionally, P26_INT showed that the effort he directed towards learning and understanding unknown words by encountering different possible usages of them in others' tweets helped him to have firm vocabulary knowledge that is difficult to be forgotten. He emphasised that the

tweets that contained an additional illustrative element, such as a photo, were more helpful than the ones that did not. He stated:

م ٢٦ - مق: أكثر شيء مفيد هو قراءة تغريدات زملائي، قراءة تغريدات الناس الآخرين. لأنه كنت أقرأ تغريدة تغريدتين ثلاثة أربعة مكتوبة في سياقات مختلفة و أغلب التغريدات يكون مضاف معها صورة أو معها شيء فهذه تساعد مرة كثير في تعلم معنى الكلمة وتثبت المعنى كمان في العقل.

P26_INT: the most beneficial thing is reading my classmates' and other people's tweets. Because I was reading a tweet, two, three... four tweets which were used in different contexts and most of them were posted with a picture or something. This helps in learning words' meaning and in memorising it.

Also, P10_INT showed that he used to evaluate how a recently learned word is combined with other words and fits in its context. He added that sometimes he checks the meanings of the other combined words he does not know. He said:

م ١٠ - مق: الفائدة إنك تشوف مثال ثاني يعني مو مثال زي اللي حطيت إنت يعني يمكن يكون في نفس المثال هذا في كلمات يمكن ما كنت أعرفها لأنني أقرأ لبعض الزملاء فأنا أبحث عنها عشان أعرف إيش معنى الجملة كيف حط الكلمة هذه في الجملة نفسها فيسير الفائدة فائدتين.

P10_INT: The benefit comes when you see another example, other than the one you have posted. It might be the case that in this new example, there are words which I don't know but were used by my colleagues so I go and find their meanings in order to understand their sentences and therefore the benefit will be doubled.

Moreover, the participants seemed to associate the load of involvement in the weekly mobile microblogging task with learning outcomes. That is, more involvement with targeted words leads to better learning. For example, P27_INT, pinpointed that putting more effort into learning a lexical item by using it in a sentence example is more beneficial than just posting and sharing its definition. He also explained that encountering recently learned words in others' tweets enabled him to evaluate (1) how they are combined with other words, (2) how they fit their contexts, and (3) compare each recently learned word's different meanings.

م ٢٧ - مق: فيعدين حبة حبة بدأ هذا الشيء يتطور عندي، في البداية كنت أغرد تغريدات وأسبب (أترك) الجوال و أمشي وبعدين لا، صرت أغرد تغريدات و أشوف تغريدات زملائي، يعني هل الكلمة كانت صحيحة على سياق الجملة؟ كيف يعني معناها في الجملة؟ لأنه الكلمات تختلف من جملة لجملة، في طالب يكتبها في جملة فإذا ترجمت المعنى للعربي يطلع غير، بينما إنت إذا كتبتها في جملة برضوا المعنى العربي يطلع غير.

P27_INT: And then step-by-step, this thing started to develop more. At the beginning, I used to post my tweets then leave my mobile, and then I started to post mine and look at my classmates' tweets as well. I started to do this to check if I have used the word in the right way (fitting the context). With certain words, it can be tricky; a student uses it in a certain sense and it gives a certain meaning once translated into Arabic, while I use it in another sentence and it gives another meaning one translated into Arabic.

In the same vein, another participant reported that using a recently learned word to form an original sentence leads to making the word memorable. That is, a student will be more involved when using a word to form a sentence than when he just searches and/or shares a word's meaning.

م ٢٩ - تق: من خلال تجربتي، أرى أنه إذا كنت لا تعرف معنى كلمة و استخرجت المعنى فقط و وضعته في الهاشتاق غالباً سينسى، أما إذا استخرجت الكلمة ومعناها مع ذكر مثال فغالباً لن تنسى لأن المثال يساعد بشكل كبير.

P29_WR: from my experience, I think if a word's meaning is unknown for you and you just find the meaning then post it on the hashtag, most likely you will forget it. However, if you find the meaning with posting an example, you often will not forget it because the example helps a lot.

5.2.6.3 Emotional engagement

Emotional engagement refers to the participants' positive or negative feelings, such as interest, enjoyment, happiness, nervousness, convenience and anger. It is reflected in the current task by the participants' positive feelings of interest, enjoyment, comfort, convenience and negative feelings of boredom or lack of interest. The gathered data have shown that the feelings of the majority of the participants were positive which reflected that the current task helped to promote their emotional engagement. Examples of these views were introduced and explained in the first theme which is related to the participants' attitudes (see 5.2.4).

5.2.6.4 Social engagement

Social engagement refers to learning that involves social practices, such as interactions and group learning activities. It is reflected in the current task by the participants' effort directed towards learning unknown words' meanings and usages by participating and interacting with others during the research intervention. The participants' views have indicated that the current task had noticeably helped to promote their social engagement. For example, one participant stated that he learned from his classmates as they all were part of the mobile microblogging task. He stated:

م ٨ - مق: تلقى الكلمة على حساب تويتر والكل يشارك في تويتر، فالآن يمديك تتعلم من تويتر.

P8_INT: ... you can find the (targeted) word on Twitter... everyone (all classmates) is participating. So, now, you can learn from Twitter

Talking about the same issue, social engagement was reflected by other participants who referred to the fact that they used to post and share their knowledge, interact and exchange the words they were learning. One participant said:

م ٩ - مق: لأن في تويتر في طلاب يشاركون بكلمات وطلاب يردون و زي كذا.

P9_INT: Because in Twitter there are students who participate and post about the words (targeted words) and other students interact and so on.

Another one commented:

م ٣ - مق: المشاركة المشاركة فقط، إنك تكتب الكلمة وترسلها وتشوف زملائك ايش يقولون.

P3_INT: Participation only... you write the (targeted) word, post it and then see what your classmates will say (post).

Also, it was alluded to the fact that the facilitation of social interaction the participants enjoyed through using the mobile microblogging tool seemed to increase their social engagement not only in Twitter but in the regular classroom too. For example, one interviewee commented:

م ٢٠ - مق: تويتر فتح لي المجال إني اهرج مع أصحابي لمن نرجع الكلاس، هنا نهرج مع بعض.

P20_INT: Twitter enabled me to interact with my friends... when we come to the classroom, we interact with each other (regarding words posted on Twitter).

Moreover, it was assumed by another participant that lack of social interaction which was facilitated by the adoption of the mobile microblogging tool could impact the participants' learning outcomes negatively. He argued:

م ٧ - مق: أتوقع إذا راح تويتر يضرنا، لأنه أستفدنا منه شيء كثير، لقيت ناس تشارك معهم حيفل هذا الشيء و أتوقع أنه يضرنا.

P7_INT: I guess we will be negatively affected if Twitter stopped because we benefited from using it so much... you find people to interact (participate or practice) with... this interaction (participation or practice) would become less and thus affect our learning (negatively).

5.2.6.5 Engagement with vocabulary as a critical factor

The participants' views indicated that they had a variety of involvements with their targeted vocabulary during the research intervention. Increased frequency of exposure with targeted vocabulary was reflected by more than 75% of the participants. For example, one participant indicated that the more he sees the targeted words the better learning he has. He said:

م ٨ - مق: لما أشوف الكلمة أكثر أحس إني خلاص فهمتها، تعلمتها واكتسبتها.

P8_INT: When I repeatedly see the same word, I feel that I understand it, learn it and acquire it.

Another participant assumed that his vocabulary knowledge was increased as he repeatedly encountered the targeted words, during the weekly task and in the classroom. He said:

م ٢٧ - مق: لا، للأمانة زاد لأنه هذه الكلمات أنا نصيا كنت بشوفها في القطع الموجودة عندنا في الكتاب، فكنت بشوف الكلمات بشكل متكرر.

P27_INT: No, it honestly increased because these words are literally the ones that I used to see in textbook passages... So, I was exposed to these words frequently.

These views were elaborated by P26_INT who suggested that the adoption of the current mobile microblogging tool and task enabled him to repeatedly encounter the targeted words in the course hashtag. He detailed that he was able to be frequently exposed to the words in his classmates' posts, observe the usages of the words in different contexts, and sometimes find an illustrative element, such as a photo. He claimed that these helped him a lot with learning the words as well as establishing them in his brain.

م ٢٦ - مق: أكثر شيء مفيد هو قراءة تغريدات زملائي، قراءة تغريدات الناس الثانيين. لأنه كنت أقرأ تغريدة تغريدتين ثلاثة أربعة مكتوبة في سياقات مختلفة و أغلب التغريدات يكون مضاف معها صورة أو معها شيء فهذه تساعد مرة كثير في تعلم معنى الكلمة وتثبت المعنى كمان في العقل.

P26_INT: the most beneficial thing is reading my classmates' and other people's tweets. Because I was reading a tweet, two, three... four tweets which were used in different contexts and most of them were posted with a picture or something. This helps in learning words' meaning and in memorising it.

Also, the participants showed that encountering the targeted words was not limited to their classmates' posts but it was extended to other Twitter users' posts. That is, the participants used to search the Twittersphere and observe as many authentic examples as they wish to learn their targeted words. For example, P9_INT mentioned:

م ٩ - مق: لأنه تكتب الكلمة المطلوبة وتبحث عنها تلاقىها مستخدمة في جمل و أمثلة عند الغير، طبعاً مو شرط الطلاب.

P9_INT: Because you write the targeted word and then search for it; in this way, you will find many example sentences posted by others, of course not necessarily your classmates.

Moreover, it was indicated that the participants could be spontaneously exposed to their targeted vocabulary items. For example, P28_INT stated that he felt to be driven, out of curiosity, to check his classmates' tweets every time he wanted to post. He mentioned that:

م ٢٨ - مق: أول حاجة تويتر لما تجي بتحط الكلمات حتى لو انت أصلاً ماتبي تشيك على تغريدات أصحابك لابد و إنت بتحط (تقوم بالتغريد) حتلاقي أصلاً كم كلمة فتقرأها يعني من باب الفضول.

P28_INT: ...when you are about to post the words (in the course hashtag), even if you do not intend to see your classmates' posts, you must, while you are posting, see some words (posted by classmates)... you read them... I mean... for curiosity.

Another kind of involvement was reflected in the participants' views. That is, the participants reported that the adopted tool enabled them to practise and use recently learned words which impacted their learning outcomes positively. For example, P11_FG claimed that practising anything that was recently learned leads to better learning. He said:

م ١١ - مج: دائماً كمان لما تطبق اللي تتعلمه يكون أفضل التعليم فيها و يكون أقوى في المراجعة و القراءة.

P11_FG: Also, it is always better when you put what you have learned in use, and it is even better for revision and reading.

Turning now to another kind of involvement, increased amount of time spent engaging with the targeted words was reflected by the participants. One participant reported that the adopted tool enabled the participants to spend as much time as they desire beyond their regular class time.

م ٢٠ - مق: أول شيء لك الحرية إنك تفتح تويتر في أي وقت، ما في وقت أو زمن معين يحددك زي زمن المحاضرة، أما في تويتر خلاص المعلومة بتكون يعني للزمن اللي إنت تبغاه، حتى ممكن نستخدمها ممكن مع أصحابنا برة أو شيء زي كذا حتى لمن ندخل تويتر في معلومات كثيرة في تويتر يعني حتى ممكن مثلاً الكلمة اللي نحن ندور عنها نبعتها مثلاً في نفس التويتر نحصل يعني جمل يا كثرها عنها.

P20_INT: Firstly, you are free to access Twitter whenever you want... there is no time limit as in the case of a classroom environment... Information will be available all the

time... We can even use it with our colleagues outside or anywhere... Even when we use Twitter, there are many sources of information within Twitter. I mean in Twitter, we might, for example, find so many examples on the word we're looking for.

This view was echoed by another participant whose description showed that he spent time to learn the targeted words in the Twittersphere. He stated:

م ٢٦ - مق: مثلاً عندي كلمة صعبة ما عرفت لها سويت لها بحث في تويتر، عندي ١٥ مثال أقرأ ١٥ مثال المثال الأول ما راح أفهمه المثال الثاني ما حافهمه المثال الثالث حيكون صعب المثال الرابع الخامس أكيد حيجيني مثال أنا راح أقدر أفهم منه.

P26_INT: For example, I had a difficult word that I knew nothing about, I just searched for it on Twitter and it gave me 15 examples to read... So, if I couldn't understand the first example, the second or the third, even if the fourth is difficult or the even the fifth... at the end of the day I will definitely find an example that I can understand.

In the same vein, P18_INT pointed out that the current adopted tool increased the amount of time he spent with the words and thus his retention improved. To support his view, he compared his vocabulary retention in the current course with a previous one.

م ١٨ - مق: لا لا، أتذكرها أفضل لأنه كمان أنا جايب (الديفينيشن) من نفسي وجايب المعنى و كنت أبحت عن المرادف للكلمة فالبحت وهذا كله يذكرني بالكلمة نفسها، صرت خلاص حافظها.

P18_INT: No... no, I will remember it better because I have brought its definition myself and I also got its meaning and was searching for its synonyms. So, all searches I do will remind me of the word itself. So, it will become part of my vocabulary (I will memorise it).

5.2.7 Approaching vocabulary and learning outcomes

The participants' views in the previous theme showed how the mobile microblogging tool helped to promote their engagement with their targeted vocabulary (see 5.2.6). In the current theme, the participants' views related to the impact of this engagement on learning and retrieving new words, in-classroom participation, understanding teacher's explanations and comprehending reading passages will be illustrated with some examples.

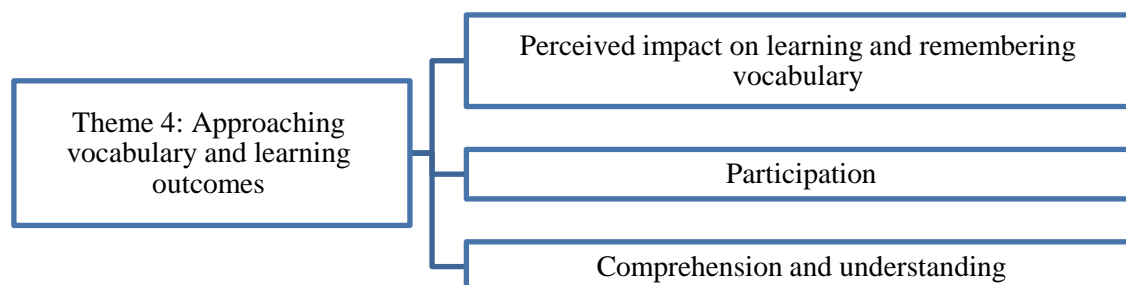


Figure 5: The theme and sub-themes are related to the impact of engaging the participants with targeted vocabulary via the mobile microblogging tool on learning outcomes

5.2.7.1 Perceived impact on learning and remembering vocabulary

It was explained in 5.2.6.5 that the adoption of the mobile microblogging tool and task helped to promote the participants' engagement with their targeted vocabulary. The impact of this engagement on the participants' learning outcomes and remembrance appeared to be positive. It was reported by more than two thirds of the participants that participating in the mobile microblogging task led them to better learn and remember their targeted words. These views will be illustrated with a few examples from the interviews and focus groups.

Most participants indicated that the adoption of the mobile microblogging tool and task increased their engagement and thus impacted their learning outcomes. For example, one participant said:

م ٣ - مق: زاد عدد المفردات و أفادني أعرف إستخدامها بشكل عام.

P3_INT: It (using Twitter) improved my vocabulary and helped me to learn how to use them.

And another one mentioned:

م ٣٠ - مق: تعرف كلمات جديدة، تعرف تركيب جمل.

P30_INT: You know new words... know how to compose sentences.

Also, the impact of repeated encounters on learning and remembering unknown words was referred to by many participants. For example, P33_INT claimed that utilizing the current mobile microblogging task increased the amount of exposure to targeted words. As a result, learning and remembering vocabulary has become better.

م ٣٣ - مق: مثلاً، إنه يدرس خمس مرات في اليوم أو خمس مرات في الترم كامل تفرق، أو خمس مرات أكثر من ثلاث مرات، لأنه سيستفيد من الكلمة، سترسخ في مخه.

P33_INT: For example, studying five times a day vs. five times in the entire semester or five times vs. three times do make a difference because he (learner) will benefit from the word... will firmly be established in his brain.

Moreover, P27_INT showed that engagement with the targeted words helped to learn different aspects of word knowledge, such as form-meaning relationship and the ability to combine recently learned words with other words to form meaningful sentences. He said:

م ٢٧ - مق: مع الالتزام في تويتر ومع قراءة تغريدات زملائي مع الأيام بدأت أحس بالتطور والزيادة (في عدد المفردات)، صرت أشوف الكلمات فأعرفها، أعرف معناها بالعربي و أعرف أوظفها في جملة.

P27_INT: As a result of committing to access Twitter and reading my classmates' tweets, I started to feel improvement and increase (in vocabulary). So, once I see the words, I recognise them. I know their meanings in Arabic and how to use them in sentences.

In addition, P4_FG presumed that the adoption of the mobile microblogging tool to approach vocabulary could assist the participants to learn words other than the targeted ones and thus increase the amount of their own vocabulary. He mentioned:

م ٤ - مج: بلعكس أنا أشوف إنه يفيد أكثر لأنه أكيد كل واحد بيستخدم الكلمة بإستخدامه مع مفردات أخرى، داخل تتعلم كلمة حتتعلم عشرة تقريباً.

P4_FG: I believe that it (using mobile microblogging) is more beneficial because everyone will use the (targeted) word with other words... while you intended to learn one word, you learn approximately 10 words.

Furthermore, P26_INT disclosed that engagement with targeted words in the mobile microblogging task helped him to learn more than one meaning of a word as well as many possible uses. As a result, he noticed that he did not need to ask his teacher for words' meanings or clarifications. He mentioned that:

م ٢٦ - مق: في الكلاس نفسه بدل ماكنت أسأل الدكتور وإلا استفسر منه عن كلمة وإلا كلمات أكون أصلاً قد قرأت وعرفت معناها، وإستفدت طبعاً من الأشياء اللي زملائي حطووها وعرفت أكثر من معنى للكلمة وإستخدامات الكلمة الكثيرة طبعاً، الإستخدامات الكثيرة.

P26_INT: ... when I go to class, instead of asking the teacher about a word or some words, (through Twitter) I would be already familiar with the word(s) and its/their meaning(s). I learn more than one meaning for a word as well as its many possible uses.

The participants' views were supported by their regular class teacher. In his comment below, the teacher explained how the adoption of the mobile microblogging tool and task impacted the participants' vocabulary gains and knowledge development.

الأستاذ: أنا ماكانوا يقولوا لي بس انا كنت بشوف الاثر وبالتحديد في تعريفهم للكلمة. يعني وحده من الاشياء اللي بسويها ان الطالب يعطيني تعريف للكلمة ما اتوقف، أسأل طالب ثاني وثالث ورابع وخامس ، فكنت اسمع تعاريف مختلفة كلها في المعنى نفسه. فباين إنه هو نفسه فامليار مع الكلمة.

T: Although they (students) did not use to tell me, but I used to see the effect, especially in their definitions of a word. I mean, one of the things I used to do when a student provides a word's meaning was to ask a second, third, fourth, and fifth student and subsequently I used to hear different definitions related to the same meaning (of a word). This made it clear that students were familiar with the words.

5.2.7.2 Participation

The amount of the participants' in-classroom participation seemed to be positively impacted by the adoption of the mobile microblogging tool and task. For example, one of the participants commented that he noticed how his participation in the classroom increased after using Twitter to approach targeted words. He stated:

م ١٨ - مق: أثر كثير، يعني (أنا) دائماً هاديء وما أشارك كثير لأن أغلب الكلمات ما أعرفها لكن لما أكون منزل التعريف حقها اليوم اللي قبله، في المحاضرة أكون أقدر أشارك.

P18_INT: Actually, Twitter had a big influence. Before using it, I used to be quiet during the class and rarely participated because I did not know the words. However, posting words' definitions enabled me to participate in the class.

Another interviewee, when asked why he thinks that his in-class participation increased, said:

م ١٤ - مق: في عندك معلومة في رأسك موجودة، يعني المعلومات مع الدكتور تشاركها.

P14_INT: ... We can use the knowledge we obtained to participate in the classroom.

A number of participants described how they noticed the increase in the amount of some of their classmates' in-class participation. For example, one of the interviewees, who refused to use Twitter with his classmates during the first weeks, stated that:

م ٢٧ - م: فما كنت أشارك فحسيت عطائي في الكلاس كان أقل من زملائي. أنا شفت الجميع يعرف كلمات جديدة يعرف يوظف يعرف كيف يستخدم.

P27_INT: ... As a result, my participation in the classroom was very little in comparison to my other classmates. I noticed that all of them had known about the new words' meanings and how to use them.

Talking about this issue, five participants in one of the focus groups discussed how the adoption of the mobile microblogging tool and task impacted on their in-class participation positively. Each one tried to support his own view with an example, or a reference. The first one argued that preparing the targeted words before attending the classroom made him feel confident and thus his participation increased. He stated:

م ١ - م: أكيد أنه أثر و فرق لأنني لما أشارك في المحاضرة حكون أعرف الكلمات حققت الدرس قبل لا اجي فلما أكون مشارك أكون متأكد أنه الكلمة صح و مشاركتي صح، فلما حشارك أشارك أكثر و أكثر.

P1_FG: Of course, there is a big difference because when I attend the class I would be already familiar with the (targeted) words and would participate confidently... my participation would increase...

The second participant compared his own experiences of in-class participation before and after the adoption of the mobile microblogging tool and task. He commented:

م ٤ - م: كنت أواجه في القطعة أنه ما أفهم بعض الكلمات اللي هي من ضمن الكلمات اللي تجيبنا في تويتر يعني قبل كذا ما كنت أفهمها قبل تويتر لكن دحين سرت عارف الكلمات هذه و لما يسأل عنها الدكتور بجواب و أشارك معه.

P4_FG: previously, I had a problem with understanding the reading passages since I did not know the meanings of most of the words. After using Twitter, it has become easier to understand the words and thus I could participate more during the class.

The third participant, in order to support his view, indicated that their regular class teacher must have noticed the increase in the amount of their in-class participation after the adoption of the mobile microblogging tool and task. He said:

م ٧ - م: أتوقع السؤال هذا ممكن يجاوب عليه الدكتور كيف كنا قبل تويتر؟ و كيف سرنا بعد؟ يعني فيه إختلاف أتوقع كبير، إنه قبل تويتر كنا بنجي نأخذ الكلمات، الآن بنجي مراجعة للكلمات في المحاضرة، يعني نكون عرفنا الكلمات، عرفنا معانيها، فأتوقع إنه فيه إختلاف كبير قبل و بعد.

P7_FG: I guess this question can be better answered by the teacher himself (how does the adoption of the mobile microblogging tool and task impact on the learners' in-class participation?). I think there was a big difference since we were attending the class to learn the words for the first time during the class. But, after using Twitter it became as if we were just reviewing them.

Finally, the last two participants in the focus group agreed with what was said.

These views were reinforced by that of the regular class teacher who used to observe the participants' practices and behaviours inside the classroom.

الأستاذ: وفي (الانترآكشن) في الفصل، بعد ثلاث أربع أسابيع تقريبا ، وضح انه في تفاعل حقيقة في الفصل ، مع
إني ما أميز الطلاب اللي شاركوا من اللي ما شاركوا ما عندي علم عنهم، لكن أقدر يعني إلى درجة ٥٠ - ٦٠ %
أقول إن الطالب هذا شارك معاك في تويتر.

T: In-class interaction. After approximately three-four weeks, in-class interaction became clear in the classroom. While I had no idea about who participated and who did not, I was able, 50% to 60%, to say that a particular student participated in Twitter.

5.2.7.3 Comprehension and understanding

The participants were asked to indicate whether the adoption of the mobile microblogging task has an impact on their reading comprehension and understanding in the classroom or not.

Around 80% of the participants who responded to this question felt that the adoption of the mobile microblogging task impacted their own reading comprehension and understanding in the classroom positively. For example, the comment below shows that the adoption of the mobile microblogging task helped the participants to have better reading comprehension.

م ٢٠ - مق: سرت خلاص أفهم المقال كامل مع الدكتور لمن يجي يقرأ.

P20_INT: So, this (using Twitter) enabled me to comprehend the article when the teacher reads it.

Another comment illustrating how the adoption of the mobile microblogging positively impacted students' comprehension and understanding in the classroom is displayed below. In his comment, P8_INT explained how he noticed a positive change in his reading comprehension. He supported his view by comparing his own experiences before and after the adoption of the mobile microblogging task.

م ٨ - مق: صرت أفهم بسرعة، أنا قبل في الترم الأول أجي ما أدري عن الكلمات هذه، الدكتور يقرأ لنا القطعة ما أعرف الكلمات هذه فهو يضطر يشرحها بالعربي، الترم هذا لما جاء تويتر، أعرف الكلمات يعني وما يحتاج إنه يشرح لي بالعربي و أفهم وقدرت أفهمها على طول.

P8_INT: I could understand easily. During the first term, I could not understand the reading passages, though the teacher used to explain them, so he (sometimes) had to use Arabic language to explain. This semester with using Twitter I could understand the lessons more easily.

Another interviewee declared that he would not be able to understand his teachers' explanation without learning the meanings of the targeted words. He elaborated that many words are complex and the teacher might need to give many examples in order to help him to learn the words, otherwise the student himself has to spend some time to learn. He said:

م ٢٩ - مق: لكن ما أتوقع لو ماكنت فاهمها ما أتوقع أن الشرح حيوصل لي، لأنها تجيبك شوي معقدة يا بيغالها أمثلة أو بيغالها مثلا تشبك عليها بنفسك.

P29_INT: ...I think if I do not know the meanings of the words I encounter in the class, I would not be able to understand. This is because the words are complex. (To learn them)

you either need examples of their usages (to be given by the teacher) or you do check them yourself.

More details about how the mobile microblogging task helped to enhance the participants' comprehension and understanding was provided by some participants. For example, P27_INT indicated that being engaged with the targeted vocabulary in Twitter enabled him to identify the main idea of the reading passage. He said:

م ٢٧ - مق: في شيء، لاحظته (تويتر) أنه ساعدني كثير في إستخراج الفكرة الرئيسية للنص.

P27_INT... I noticed that it helped me a lot to identify the main idea (in a reading passage).

In the same vein, P36_INT alluded to the benefit of learning more than one meaning of a word. He compared his previous experience of individually finding one meaning of a word with the current experience during which he learned more than one meaning of a word. He specified that his participation in the current task helped him to compare and choose the meaning that fits best with the context of the reading passage he was studying. He stated:

م ٣٦ - مق: كانت عندي مشكلة في الريدنيق في المستوى اللي راح، فأخذت الدرس قبل المحاضرة عشان لما أدخل أكون فاهم، فكانت دائما ما تعطي معايا نتيجة أحصل نفسي ترجمت كلمات غلط، غير، عكس المطلوب في الدرس، غير هذا، لكن بعد التويتر سرت لما أدخل مع الدكتور أحصل نفسي يعني أشوف الكلمة و أفهم أنا ايش مقصود منها في هذا السياق.

P36_INT: I used to have a problem in the previous Reading course. I used to prepare in order to understand when I attend the class. However, I used to find out that the meanings of the words I learned did not fit within the context of the reading passages. After using Twitter, however, I found out that I was able to understand what meanings fit best within the context of the reading passages.

However, the disagreement between the participants in one of the focus groups around the impact of the adopted mobile microblogging task on their in-classroom comprehension and understanding provided a clearer image and helped to shed light on some interesting issues. The first participant in the focus group stated that he noticed slight improvement in his comprehension and understanding in the classroom. He justified that this little improvement could be attributed to his little interest in participation in the mobile microblogging task. Similarly, the second one, who scored very high in the pre-test, agreed with him without providing any justification. They mentioned:

م ٢٤ - مج: ما لاحظت شيء كثير، لأنه زي ما قلت لك أنا يعني للأسف زي ما كنت أسوي بس أنه واجب وخلاص ماكنت أقدر أستفيد
م ١٦ - مج: نفس الشيء بالنسبة لي، شيء قليل مرة اللي فرق بالنسبة للإستفادة في المحاضرة.

P24_FG: There was no noticeable improvement. Maybe, because I was not so interested... I was not able to benefit.

P16_FG: It is the same for me. My understanding improved just a little.

The third participant seemed to be neutral in his view by indicating that it could take some time before a student could notice any difference. He said:

م ٢١ - مج: غالباً ما تلاحظ الفرق في نفس الوقت يعني تلاحظه بعد فترة.

P21_FG: Often, you might not notice the difference in the same time. I mean, you could notice it after a period of time.

However, the fourth participant expressed his disagreement with the previous responses and indicated that the adoption of the mobile microblogging task helped him to have better comprehension and understanding in the classroom. He stated:

م ١٥ - مج: لا أنا فرق معايها، الحقيقة حسيت إنني فعلاً إستفدت وكنت متحضر لبعض الكلمات الموجودة.

P15_FG: No, it does make a difference for me. I really felt that I benefited and was prepared enough for some words (to be taught in class).

Another point of view was expressed by the fifth participant in the focus group. He signified that the adoption of the mobile microblogging task impacted his comprehension and understanding but neither slightly nor greatly. It can be guessed that he was referring to the idea that some words had more than one meaning and he was not aware of the meaning that fits best with the context of his reading passage. He commented:

م ٣٢ - مج: لا أستطيع أن أقول فهم عالي ولا فهم منخفض، بين و بين في بعض الكلمات. في المتوسط أحياناً تحس إنك مستوعب تمام أحياناً تحس بالرغم من إنني حظيت معنى، حظيت جملة إلا إنني اللي أشوف قدامي في الكتاب مختلف شوية ممكن.

P32_FG: it depends on the (targeted) words. So, I cannot generally say that my understanding improved either greatly or slightly. On average, sometimes, I feel that I can comprehend. Meanwhile, I sometimes feel that (the meaning(s) of) the words I encounter in the textbook are slightly different (from what I learned in Twitter) although I had used and posted the word.

Regarding why a student might feel his comprehension and understanding was impacted or not, the sixth participant in the focus group, mentioned that when a student pays attention to some words he feels his comprehension and understanding enhances. He found out that the adoption of the mobile microblogging task was helpful for him. He said:

م ١٣ - مج: أعتقد إستفدت أكيد، إستفدت في الجمل اللي أعرفها والجمل بعضها أنساها، أعتقد إن إلي بركر عليها أكثر إستفدت.

P13_FG: I think I certainly benefited. I knew some sentences and forgot others. I believe that I benefited more from the ones (targeted words) I paid more attention to.

Finally, the last participant in the focus group showed his partial agreement with P32_FG by referring to the meanings of some words he learned in Twitter as not fitting within the context of passages he was reading in the classroom. He commented:

م ٣٨ - مج: الكلمات اللي بشوفها وبحلها في تويتر، بجي في الدرس هنا بشوف كلمة جديدة، أغلب الكلمات لأن معانيها تختلف جداً في الكونتكت، في المسج، ٩٠-٩٥% بشوف شيء جديد كأنني ما سويت شيء في تويتر.

P38_FG: The (targeted) words I encounter in the classroom seem to be new... most of the words because their meanings in the context of reading passages were different from their meanings in the context of the message (Twitter post). 90-95%, I see something new as if I did not do anything in Twitter.

In support of these views, the regular class teacher stated that:

الأستاذ: في مجموعة كبيرة أصبحت تعيي وتعلم ماتقول و تفهم اللي أنت بتتكلمه، وفي مجموعة قليلة جدا والدليل ملاحظتي إنه في عدد أكبر من الطلاب مستوعبين اللي إحنا بناخذه.

T: A big group (of students) were able to absorb and understand what you (teacher) are saying and a very small group (were not) and a proof to this was my observation that a larger number of the students were able to comprehend what we were learning.

5.2.8 Challenges of using mobile microblogging

This theme is a predetermined theme and it identifies the negative views of some participants about the adoption of the mobile microblogging to approach vocabulary learning. As illustrated in Figure 6, this theme includes three sub-themes that were inductively derived from the data. The three sub-themes represent the concerns of the participants about the integration of a tool, such as the current one, into regular language courses. Each of the emerging sub-themes will be introduced with a few illustrative examples.

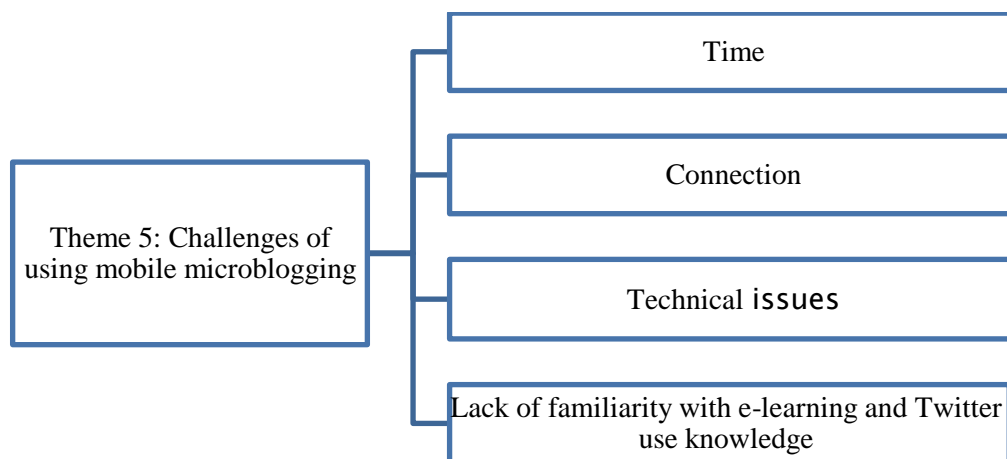


Figure 6: The theme and sub-themes are related to the challenges of using mobile microblogging

5.2.8.1 Time

A small number (less than 20%) of the participants indicated that time was a concern for them. The comments they provided showed that taking part in the weekly group learning task required time more than it would be if they were learning individually. The common view amongst those participants was that their time was limited because they have other educational or personal commitments. Talking about this issue, one of the participants mentioned that sometimes he did not have time to check Twitter. He said:

م ١٨ - مق: لكن فيه زي ماتقول بعض الأحيان مايكون عندي وقت أرجع أراجع الكلمات في تويتر و زي كذا.

P18_INT: It (using mobile microblogging) was so useful for me but sometimes, I had no time to revise the words (targeted words) in Twitter.

Another one explained that his time was limited. However, he tried his best to check his classmates' posts two to three times a day. He said:

م ٣٣ - مق: بصراحة، عادةً لأنه أنا الوقت عندي جداً ضيق، فعادةً أحاول قدر المستطاع إنني أشوفها مرتين ثلاث مرات.

P33_INT: To be honest, I usually have very limited time. So, usually I do my best to see them (targeted words) two to three times.

Other participants provided justification why they had limited time. For example, P28_INT explained that his time became limited during exam periods. He stated:

م ٢٨ - مق: أحياناً الواحد يكون عنده إختبارات و إلا فهي جداً رائعة.

P28_INT: Sometimes students may have examinations. Otherwise, it (using mobile microblogging) is a very wonderful idea.

Finally, one participant expressed that being required to take part in a weekly task that had a time limit made him feel stressful. He commented:

م ٣٥ - مق: لكن إذا لازم قبل نهاية الأسبوع وتكتب وما أدري ايش، شكله كذا شوية ضغط.

P35_INT: if I must learn the words before the end of the week and post and so on, this can be a bit stressful.

5.2.8.2 Connection

There were some negative comments about the lack of an available internet connection. They revealed their concerns about the need for an internet connection to take part in the mobile microblogging task. Also, there were fears of using any kind of educational technology and e-learning. For example, P27_INT stated that he was generally against the adoption of any type of educational technology and e-learning because they require internet connection all the time. He commented:

م ٢٧ - مق: تويتر و وسائل التواصل الإجتماعي والتعليم الإلكتروني أنا ما يستهويني عامة، لأنه زي ماتعرف إنت تحتاج شبكات على الدوام.

P27_INT: ... In general, I do not like Twitter, social networking and e-learning. As you might be aware, these require internet connection all the time.

Turning to experimental evidence, two participants reported in their weekly reports during the teaching intervention that they could not participate in the mobile microblogging task due to lack of internet connectivity. For example, one of them reported:

م ٩ - تق: لم أتمكن من قراءة التغريدات لتوقف النت لدي.

P9_WR: I could not read the tweets because my internet was down.

Another interviewee believed that availability of internet connection is essential if the participants want to access and participate in Twitter. He stated:

م ٢٢ - مق: يعني مثلاً، مانتقيد بمكان واحد، مثلاً مكتبي، تقدر تروح مثلاً أي مكان، أهم شيء فيه مصدر إنترنت، في أي مكان.

P22_INT: ... For example, you will not be restricted to one place such as your desk. You can go anywhere but the most important thing is that you find internet connection.

This view was echoed by another participant who argued that if he could afford to have internet connection he would check the course hashtag. Also, he raised another related issue by saying that the university Wi-Fi connection was not working.

م ١٦ - مج: أنا شخصياً ما عندي إنترنت في الجوال، بينما الخدمة موجودة عند آخرين، يعني لو كان عندي خدمة إنترنت ربما ممكن أشيك على الهاشتاق. كذلك الواي فاي في الجامعة موجود ولكن ما يشبك.

P16_FG: I personally have no internet connection on my mobile phone. If I had this service, I would check the (course) hashtag... Also, the university's Wi-Fi connection is not working.

Moreover, affording the cost of the internet connection was why some participants lacked internet connection. For example, the comment below was provided in one of the weekly reports.

م ٣٩ - تق: كان النت مفصول بسبب تأخر نزول المكافأة

P39_WR: The internet was disconnected because I received my monthly stipend late.

However, when commenting on his concern about the lack of internet connection, P16_FG assumed that the lack of internet connection might not be everyone's problem. He said:

م ١٦ - مج: بس ربما تظل المشكلة لا توجد لدى الآخرين وإنما خاصة بي.

P16_FG: However, my classmates might not have such a problem with internet connection and I might be the only one having this problem.

5.2.8.3 Technical issues

Few participants have expressed their concerns about using a technological tool, such as Twitter, in relation to account or information loss. For example, one of the participants expressed his worries about losing posted information and these urged him to make a copy of his posts in his own notebook. He said:

م ٥ - مق: لا، عارف أنا أصلاً، بس ممكن الواحد يغرد فما يلقاها بعدين أو ما يحصلها ولا شيء، فقولت أكتبها بدفتر ولا شيء و تكون موجودة عندي بأي وقت ألقاها.

P5_INT: I know that (Tweets can be found in my account), but one might post a tweet and then not find it. So, I used to write them in a notebook to make sure they are available whenever I need them.

This view was echoed by one of the participants in the focus group who added that using a notebook to write down what he is learning will protect his information from loss and thus he can return to them after one or two years. On the other hand, the account or the tweets can possibly be deleted. He stated:

م ٣٢ - مج: لمن يكون عندي في دفتر يبقى عندي شيء مثلاً من الذكريات، أراجع أشوف بعد سنة ونص، سنتين، هل أنا تحسنت؟ لكن تغريدة في تويتر (حفظ التغريدات)، يمكن إنك حسابك راح أو إنحذفت التغريدة.

P32_FG: ... Using the notebook will benefit me in terms of returning to it after one or two years to check how I have been improved. However, in the case of keeping the tweets in Twitter, you might lose your account information or the tweets might get deleted.

Turning to experimental evidence, in one of the weekly reports, one participant reported that he had already lost his account and his posts were deleted. He reported:

م ٣٧: واجهت مشكلة تتعلق بحسابي في تويتر وتم مسح جميع تغريداتي وبياناتي وقد يكون هاكلر أو قيد الاستخدام من شخص آخر وقمت بإنشاء حساب جديد لأعود للمشاركة في الهاشتاق.

P37_WR: I experienced a problem related to my Twitter account. My details and tweets were erased. This might have been done by a hacker or someone who is using it now. Thus, I created a new account to continue participating in the (course) hashtag.

Also, fears of relying on others' posts were raised by one of the participants. He assumed that revisiting his own or others' posts is very useful as long as the posts will not be deleted. He stated:

م ١٣ - مج: فأعتقد هذه جداً مفيدة إنه إذا استخدم بعض الطلاب (استخدموا الكلمات في جمل مفيدة)، ما حذفوا الإستخدامات حقهم (الجمل المفيدة) والمشاركات فيستفيد منهم طلاب آخرين.

P13_FG: I think it is very useful that you and/or other classmates can go back and read the tweets which included the words used in composed sentences. As long as students do not delete their tweets, other students can benefit from them.

5.2.8.4 Lack of familiarity with e-learning and Twitter use knowledge

As explained in 4.7.3.1, all participants received two hours of training on how to use Twitter. However, two related issues emerged from the interviews and focus groups. First, lack of familiarity with e-learning. Second, lack of knowledge of Twitter's use. Talking about the first issue, it was raised that some participants were not familiar or had no previous experience with e-learning. This issue was first raised by P32_FG who stated:

م ٣٨ - مج: من الصعوبات اللي بنشوفها في تويتر الآن، يعني هو ما هو عيب في تويتر، لا، عيب خيلنا نقول في الواقع بشكل عام. التعليم من صغرنا من أولى ابتدائي، من الروضة إلى الآن ما قد درسنا بالإنترنت، هذه أول مرة أشوف أنه ندرس بالإنترنت، محنا مستوعبين، الأغلب مو مستوعب، يادوب تأقلمنا، فالأجيال اللي حتكون جاية حتتفاعل أكثر منا ويحبوا أفكار جديدة، فهذه برضوا نقص فينا نحن.

P38_FG: One of the difficulties we encountered, I mean, it is not something related to Twitter... no, it is related to that we... actually... our educational system... we have not experienced using the internet to learn since childhood... from elementary... preschool until now. This is the first time to experience using the internet for learning. So, it was not easy for us, for most of us, to get used to it in the beginning. It took us some time to familiarise ourselves. I think that next generations will be more active than us and they might bring new ideas. It is an issue related to us.

In response to P38_FG's comment, the other focus group's participants agreed except two who reported that they were already familiar with e-learning. For example, one of them clarified:

م ٢٤ - مج: أنا حسيت إنه عادي مو إنه جديدة ومشكلة.

P24_FG: I felt I was normal. I did not feel it as something new and a problem.

This expressed disagreement encouraged another participant to put emphasis on what was mentioned by P38_FG and to add that the current experience of using the adopted mobile microblogging tool helped them to become familiarised and thus became ready to use Twitter or other similar e-tools in future courses. He mentioned:

م ١٦ - مج: لا، صح جديد ما جربناه من الروضة إلى الجامعة، بس ضروري تكون فيه مرة أولى، ممكن كان نأخذها بالمتوسطة أو في الثانوي مثلاً بس جاء دحين. يعني كنا اجتمعنا هذيك المرة وتكلمنا، وجربنا شوي، يعني حتى لو ما أستفدنا من تعلم المصطلحات أستفدنا من تعلم إستخدام التويتر، فلو إحتجنا مرة ثانية نستخدم تويتر للتعلم ما نحصل مشكلة، يعني التعامل مع تويتر صار شيء مكتسب.

P16_FG: No, it is true. It is new. We did not experience it during our education from preschool until university. But we necessarily have to try and that would be the first time and it would be better if we had tried it during intermediate or secondary school. However, we have just tried it and that is fine... but you trained us on how to use Twitter. I mean, if we have not benefited from learning vocabulary, we, at least, have benefited from learning how to use Twitter. So, if we need to use Twitter for any learning purposes, we will not face any problem. We have learned how to use Twitter.

The researcher will now turn to what some other participants raised in relation to their knowledge of using Twitter. For example, one of the interviewees mentioned that he was not familiar with using Twitter and thus he experienced some difficulty at the beginning of the current teaching intervention. He mentioned:

م ٣٧ - مق: ما كانت يعني الصورة ما كانت واضحة وما كان الواحد متعود إنه يستخدم البرنامج على حسب ما شرحته، لكن بعد كذا، بعد أسبوع خلاص صار الواحد متعود عليه وصار يحس بالفائدة.

P37_INT: The image used to be unclear. I was not familiar with using the application as you explained for us. However, one week, later, I became familiar with it and started to touch its usefulness.

The same issue was reported by another participant. However, he added that he asked one of his classmates for help. He commented:

م ٢٠ - مق: أنا أول شيء ما كنت فاهم البرنامج، فبعدين سألت زميل وهذا الزميل ساعدني.

P20_INT: I was not familiar with using Twitter... so, I asked a classmate and he helped me.

However, it was indicated by one of the participants that this issue seemed to be something that affected some of the participants for a short period of time but was overcome shortly. He stated:

م ٧ - مج: مؤقتة أكيد، لأنه أنا أتكلم عن نفسي ما كنت أعرف كثير بتويتر ومع الإستخدام في الهاشتاق اللي سويناه والإستخدام المتكرر للكلمات سهل شيء كثير.

P7_FG: This problem (lack of knowledge about using Twitter) was temporary, for sure. I myself used to have limited knowledge about using Twitter. However, as a result of using the (course) hashtag and the frequent use to learn the (targeted) words, using it became much easier.

5.2.9 Qualitative findings summary

It is clear from the qualitative findings that the use of Twitter for mobile microblogging was positively perceived by the participants. The findings showed that their positive attitudes affected their acceptance and willingness to use the adopted tool. The participants' views demonstrated how the tool and its features offered them opportunities to approach their vocabulary learning. They also showed how the adoption of the current educational tool played a role in (1) extending their classroom learning activities (see 5.2.5.7), (2) connecting them with the broader world and consequently enabled them to enjoy learning from authentic/real language (see 5.2.5.8) and (3) fostering a more autonomous and student-centred learning environment in which they became more active and responsible learners (see 5.2.5.10).

Besides, the findings showed that the adoption of the mobile microblogging tool and task boosted the participants' behavioural (see 5.2.6.1), cognitive (see 5.2.6.2), emotional (see 5.2.6.3) and social (see 5.2.6.4) engagement with their targeted words and thus influenced their learning experiences and outcomes positively (see 5.2.7). In the end, a number of challenges related to lack of internet connection, issues related to accounts and learning information protection and usability concerns and affording time were identified (see 5.2.8).

These findings will be further enriched and complemented by those of the quantitative findings, which will be presented in the following section. Taken together, the findings from both qualitative and quantitative data will be crosschecked and consequently a comprehensive account of these findings will become possible.

5.3 Findings of quantitative analysis

5.3.1 Introduction

This part of the chapter is concerned with the quantitative data gathered from the questionnaires, VKS and Twitter's activity measurement. The findings obtained from these instruments will complement and corroborate those presented earlier. They also contribute to the research questions by providing further information regarding the participants' attitudes, perceptions, effect of the research intervention on engagement and consequently, vocabulary gains and knowledge development. This part begins by presenting the findings of the questionnaires followed by the findings of the pre-post VKS. It then moves on to describe and measure the extent of the participants' activity on Twitter and its relationship with the participants' vocabulary gains and knowledge development.

5.3.2 Results of the questionnaires

5.3.2.1 Attitudes towards vocabulary learning

A paired-samples T-Test was conducted to compare the total score of learners' attitudes towards vocabulary learning before and after the research intervention. Table 9 shows that there was no significant difference in the scores of learners' attitudes in the pre-questionnaire ($m = 3.95$, $sd = .453$) and the postquestionnaire ($m = 4.00$, $sd = .400$) conditions; $t(31) = -.66$, $p > .509$). So, there was no significant difference between learners' attitudes before and after the research intervention. However, the results indicate that most of the learners appear to have positive attitudes towards vocabulary learning before the research intervention and that their attitudes have slightly improved after the research intervention.

Table 9: Pre-post attitudes towards vocabulary learning

Measure		Pre-questionnaire	Post-questionnaire
Paired Samples Statistics	Max score	5	5
	Mean	3.95	4.00
	SD	.453	.400
Paired Differences	Mean difference	.046	
	SD	.386	
	t	-.668	
	df	31	
	Sig. (2-tailed)	.509	

5.3.2.2 Attitudes towards mobile learning

A paired-samples T-Test was conducted to compare the total score of learners' attitudes towards mobile learning before and after the research intervention. Table 10 shows that there was a significant difference between the scores of learners' attitudes in the pre-questionnaire ($m = 4.04$, $sd = .618$) and the post-questionnaire ($m = 4.29$, $sd = .602$) conditions; $t(31) = -2.520$, $p < .05$). Although most learners appear to have positive attitudes towards mobile learning before the intervention, their attitudes have significantly increased after it.

Table 10: Pre-post attitudes towards mobile learning

Measure		Pre-questionnaire	Post-questionnaire
Paired Samples Statistics	Max score	5	5
	Mean	4.04	4.29
	SD	.618	.602
Paired Differences	Mean difference	.246	
	SD	.552	
	t	-2.520	
	df	31	
	Sig. (2-tailed)	.017	

5.3.2.3 Attitudes towards using Twitter to approach vocabulary learning

A paired-samples T-Test was conducted to compare the total score of learners' attitudes towards using Twitter for learning before and after the research intervention. Table 11 shows that there was a significant difference between the scores of learners' attitudes in the pre-questionnaire ($m = 3.41$, $sd = .659$) and the post-questionnaire ($m = 3.96$, $sd = .492$) conditions; $t(31) = -4.823$, $p < .05$). The results of the pre-questionnaire indicate that most learners' attitudes tended to be neutral. However, the results of the post-questionnaire indicate that learners' attitudes have increased and changed significantly, indicating that learners' attitudes have changed to be positive after the research intervention.

Table 11: Pre-post attitudes towards Twitter for learning

Measure		Pre-questionnaire	Post-questionnaire
Paired Samples Statistics	Max score	5	5
	Mean	3.41	3.96
	SD	.659	.492
Paired Differences	Mean difference	.545	
	SD	.639	
	t	-4.823	
	df	31	
	Sig. (2-tailed)	.000	

5.3.2.4 The post- treatment perceptions questionnaire

Learners' perceptions were measured after the research intervention. A one-sample t-test was conducted to examine their perceptions about learning vocabulary via the use of Twitter as a microblogging tool. Table 12 indicates that most learners found learning vocabulary through microblogging is effective ($m = 3.98$, $sd = .549$, $t(31) = 41.001$, $p < .05$).

Table 12: Learners' perceptions about the research intervention

Measure		Post-questionnaire
One-Sample Statistics	Max score	5
	Mean	3.98
	SD	.549
	t	41.001
	df	31
	Sig. (2-tailed)	0.000

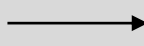


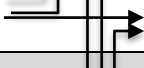

5.3.3 Results of the VKS

As explained in 4.7.2, the VKS-Twitter (75 words) and the VKS-traditional (75 words) were mixed and grouped to form the VKS-combined (150 words) that was administered before and after the research treatment to track learners' vocabulary development. Because the same test was used in the pre-test and post-test, comparison between participants' scores could be made. The findings of such comparisons would reveal valuable information and can tell if using Twitter as a microblogging tool to engage learners with their targeted vocabulary is effective or not. A number of steps were followed in order to compare learners' scores in the pre-test and post-test. These steps will be introduced and discussed in the following two sections.

5.3.3.1 VKS scoring scale and procedures

As discussed earlier in 4.6.5, Wesche and Paribakht (1996) have proposed a Scoring Scale for the VKS. The possible score for each item ranges from 1 to 5. Score 1 is given when the word is not familiar at all and then the score ranges from 2 to 5 depending on the quality of the provided translation, synonym or sentence example (Table 13). However, to ensure that the VKS is appropriately scored in the current research, three important modifications to the Wesche and Paribakht's scoring scale were made.

Table 13: VKS scoring categories

Self-report categories	Possible Scores	Meaning of Scores
I. 	1	The word is not familiar at all.
II. 	2	The word is familiar but its meaning is not known.
III. 	3	A correct synonym or translation is given
IV. 	4	The word is used with semantic appropriateness in a sentence.
V. 	5	The word is used with semantic appropriateness and grammatical accuracy in a sentence.

(Wesche and Paribakht, 1996, p.30).

First, the “basic idea of the scale is to measure progressive degrees of word knowledge. Level I is not really a level at all, but reflects what the subject does not know” (Waring, 2002b).

Consequently, the possible score for the self-report category I will be changed to 0 instead of 1 (Table 15). This should lead to making a clear distinction between the self-report category I which reflects learners’ unfamiliarity with given words and the remaining categories (II, III, IV and V) that reflect levels of learners’ word knowledge.

Second, regardless of the words themselves, some of the VKS respondents appeared to confuse some distinct words which happened to have similar forms. In more details, the fact that the form of a word, such as fees, could have other similar forms (i.e. feed, feet) can lead to potential confusion. Therefore, if a learner provides the meaning of the word feed when responding to the given word fees, it can be assumed that he possibly confused between the two words. In other words, the learner is familiar with the word feed but not with the given word fees, though he declared so. In view of that, in self-report categories III, IV and V, if a learner provides a meaning of another word that happened to have a similar form, the response has to be considered as wrong and scored 1 not 2 as it would be according to Wesche and Paribakht’s (1996) scoring scale. This is because the given word is not familiar at all, as indicated by the provided response. Thus, in relation to the modification pointed out earlier, the meaning of the possible score 0 was modified to consider words confusion, as illustrated in Table 15.

The third modification that was made was concerned with L1 translation of some given L2 words. More specifically, the self-report categories III and IV allow respondents to provide L1 translation which in a few cases might be not possible because the respondents’ L1 has no equivalent word(s) or translation (e.g. the English word lexigram). Also, it was noticed that some of the respondents provided L1 words that they seem to think of as L1 equivalents because they carry related meanings or refer to the concepts of the given words. Table 14 illustrates with

examples three different possible answers for the given word fees. According to Wesche and Paribakht's (1996) scoring scale, if a correct response for the given word is provided, score 3 will be given, if a wrong response was provided, score 2 will be given. However, the scale failed to address the provided L1 translations that appear to carry related meanings to given words that cannot be considered as correct or wrong. Accordingly, as illustrated in Table 15, score 2 was added between the scores 1 and 3 to consider such issue.

Table 14: Examples of possible related translations for the word *fees*.

Word	Possible Responses (Arabic)	Possible score	comments
fees	1 "rosoom" (fees)	3	Correct translation is given.
	2 "khadamat" (services)	1	Wrong translation is given.
	"akssat" (instalments)		
	3 "floose" (money) "dafaa" (payment)	?	Related translation is given.

In view of all that has been mentioned so far, Table 15 presents the adapted version of Wesche and Paribakht's (1996) scoring scale which was used in this research to score the pre- and post-VKS. These amendments made to the original scale, result in a 5-level scale. Score 0 was given if the provided response indicated confusion or unfamiliarity with a given word. Score 1 was given if the provided response was clearly wrong. Score 2 was given if the provided synonym or translation was related to the correct meaning(s) of a given word. Score 3 was given if the provided response was correct. Score 4 was given if a recently learned word was used with semantic appropriateness in a sentence. Score 5 was given if a recently learned word was used with semantic appropriateness and grammatical accuracy in a sentence. However, according to the criteria of the last two categories, if the word appeared to be misused with no evidence of confusion, score 1 is given, while score 0 is given if the word appeared to be misused with evidence of confusion.

Table 15: Adapted version of Wesche and Paribakht's (1996) scoring scale.

Self-report categories						Meaning of Scores
I	II	III	IV	V		
Possible scores	0					The word/phrase is not familiar at all/confused with another word.
		1	1	1	1	The word/phrase is familiar but its meaning is not known.
			2	2	2	A related synonym or translation is given.
			3	3	3	A correct synonym or translation is given.
				4	4	The word/phrase is used with semantic appropriateness in a sentence.
					5	The word/phrase is used with semantic appropriateness and grammatical accuracy in a sentence.

Finally, to check the reliability of the adapted scale and scoring procedures, a sample (10%) was scored by another marker whose L1 is Arabic. Then, the results of his scoring were compared with the results of the researcher's scoring. The result of the comparison showed that the difference between the scores was found to be not significant (less than 1%).

5.3.3.2 Pre-post VKS results

Similar to Paribakht and Wesche (1993), the VKS was statistically analysed. Calculation of frequency data for the VKS variables as well as descriptive statistics on all variables is included. Learners' responses to all targeted words were calculated in order to determine the levels of their vocabulary knowledge before and after the research intervention. In addition, all targeted words were scored dichotomously to allow multivariate repeated measures analysis of vocabulary development. To do this, the six VKS possible scores (0 to 5) were merged and grouped into two major categories, "not known" and "known" (Table 16). The "not known" category included the VKS self-report categories I and II (levels of relative familiarity with words for which the correct meaning is not known) while the "known" category included the VKS self-report categories III, IV and V (levels of knowledge of word meaning and correct use).

Table 16: Not known and known categories illustrated in the adapted scoring scale.

	Self-report categories					Meaning of Scores
	I	II	III	IV	V	
	Not known		Known			
Possible scores	0					The word/phrase is not familiar at all/confused with another word.
	1		1	1	1	The word/phrase is familiar but its meaning is not known.
			2	2	2	A related synonym or translation is given.
			3	3	3	A correct synonym or translation is given.
			4		4	The word/phrase is used with semantic appropriateness in a sentence.
			5			The word/phrase is used with semantic appropriateness and grammatical accuracy in a sentence.

The percentage of learners' responses to each of the VKS-Twitter and VKS-traditional categories in the pre- and post- tests were calculated and compared in order to demonstrate the effect of the research intervention as well as to find out if there were any difference between learners' vocabulary development when learning in Twitter (VKS-Twitter) and when learning traditionally (VKS-traditional). Also, a paired sample T-Test was done to identify learners' gains in the pre- and post- tests on these "known" and "not known" categories.

The results of the VKS-Twitter illustrated graphically on Figure 7 show differences between learners' responses to the VKS categories in the pre-test and post-test. While the responses to all categories have positively changed in the post-test, the changes in category 0 and 3 appear to be more noticeable than in the other categories. The percentage of the responses to category 0 has noticeably decreased by 30.39% and increased in category 3 by 22.22% in the post-test, reflecting development in learners' vocabulary knowledge.

To measure the development in learners' vocabulary knowledge, the two dichotomous categories "not known" and "known" illustrated on Figure 7 show that the percentage of the unknown words in the pre-test (80.10%) has decreased in the post-test (52.72%) and the percentage of the known words in the pre-test (19.90%) has increased in the post-test (47.28%). These results of the VKS-Twitter indicate that the learners' vocabulary knowledge has improved (27.38%) after the research intervention.

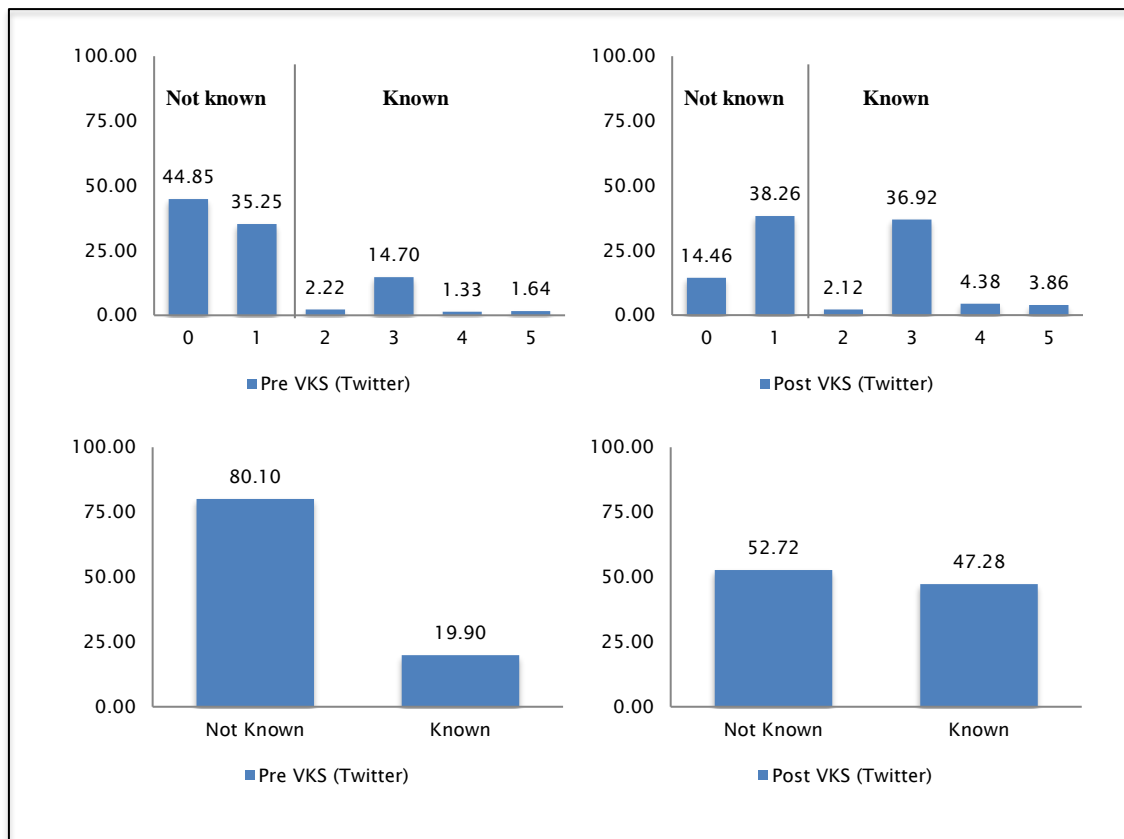


Figure 7: Pre-Post VKS-Twitter Changes

After presenting the results of the VKS-Twitter, the results of the VKS-traditional will be presented and illustrated. Figure 8 illustrates the differences between learners' responses to the VKS categories in the pre-test and post-test. It can be noticed that all categories except category 5 have positively changed in the post-test. In more detail, the percentage of the responses to category 0 has decreased by 10.32%. Also, it increased by less than 5% in categories 1 and 3,

and by 1% or less in categories 2 and 4. These positive changes reflect the development in the learners' vocabulary knowledge. In contrast, category 5 has decreased by less than 1%, indicating a negative change in the learners' vocabulary knowledge.

To measure the development in learners' vocabulary knowledge, the two dichotomous categories "not known" and "known" illustrated on Figure 8 show that the percentage of the unknown words in the pre-test (58.43%) has decreased in the post-test (53.03%) and the percentage of the known words in the pre-test (41.57%) has increased in the post-test (46.97%). These changes indicate that learners' vocabulary knowledge has changed positively by 5.4%.

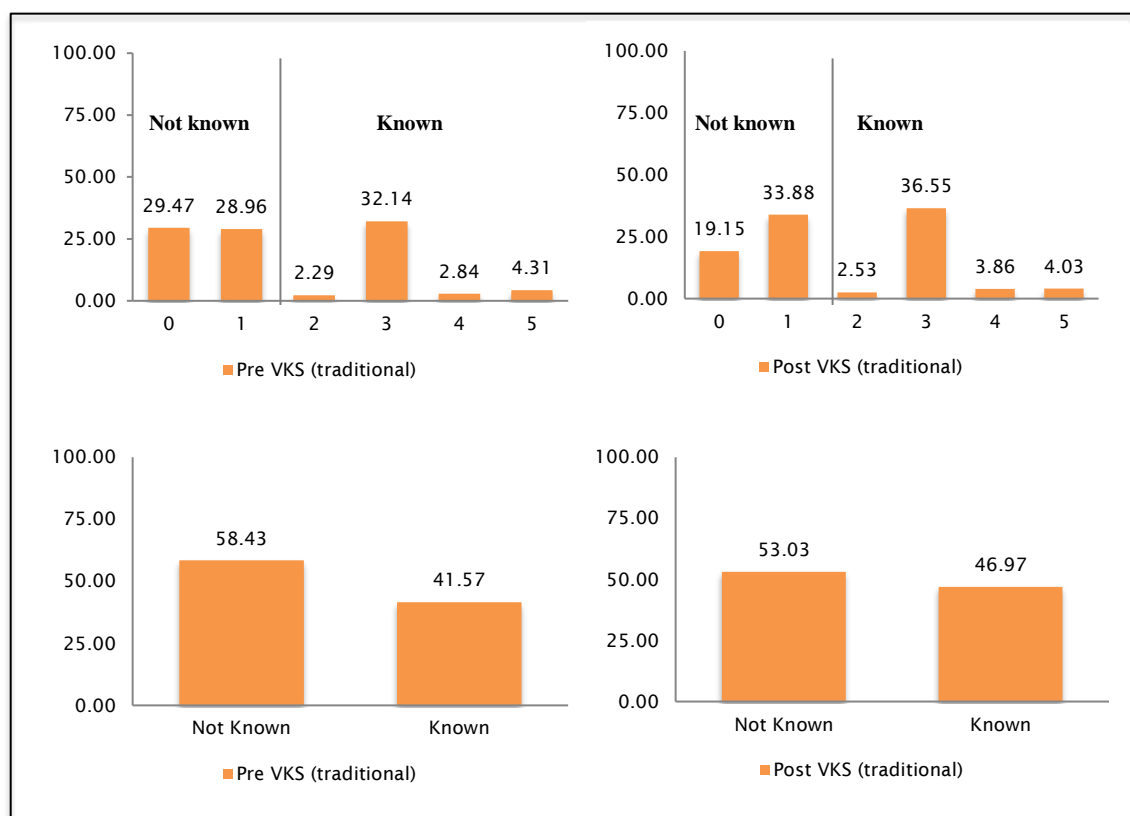


Figure 8: Pre-post VKS-traditional changes

Moreover, a paired-samples T-Test was made to compare the two dichotomous categories "not known" and "known" categories of the two VKS measures. The results of the T-Test, as illustrated in Table 17, showed that the VKS gains were significant for all the two measures, the VKS-Twitter (mean difference = 10.68, $t(38) = 16.69$, $p < 0.05$) and the VKS-traditional (mean difference = 2.10, $t(38) = 6.67$, $p < 0.05$). However, the VKS-Twitter showed noticeably higher gains than the VKS-traditional.

Table 17: Pre-post VKS “Not Known” and “Known” categories changes

Measure		The VKS-Twitter		The VKS-traditional	
Category		Not Known	Known	Not Known	Known
Paired Samples Statistics	Subjects	39	39	39	39
	Pre-test Mean	31.24	7.76	22.79	16.21
	SD	6.79	6.79	11.45	11.45
	Post-test Mean	20.56	18.44	20.68	18.32
	SD	7.26	7.26	11.33	11.33
Paired Differences	Mean difference	10.68	-10.68	2.10	-2.10
	SD	5.54	5.54	2.73	2.73
	t	16.69	-16.69	6.67	6.67
	df	74	74	74	74
	Sig. (2-tailed)	.000	.000	.000	.000

Additionally, a paired-samples T-Test was made to compare the learners’ VKS total scores in the pre- and post- VKS-Twitter and VKS-traditional measures. The results of the T-Test, as illustrated in Table 18, showed that there were significant differences between the learners’ total scores in the pre- and post-tests of the VKS-Twitter (mean difference = 69.56, $t(38) = 12.90$, $p < 0.05$) and the VKS-traditional (mean difference = 16.02, $t(38) = 7$, $p < 0.05$). However, the VKS-Twitter showed noticeably higher gains than the VKS-traditional.

Table 18: Pre-post learners’ VKS total scores changes

Measure		The VKS-Twitter	The VKS-traditional
N		39	39
Paired Samples Statistics	Max score	375	375
	Pre-test Mean	73.00	122.13
	SD	41.28	44.42
	Post-test Mean	142.56	138.15
	SD	52.18	41.95
Paired Differences	Mean difference	69.56	16.02
	SD	33.67	14.29
	t	12.90	7
	df	38	38
	Sig. (2-tailed)	.000	.000

5.3.4 Twitter activity measurement

The current section statistically determines the participants’ levels of engagement with their targeted words. Specifically, it provides informative data that reflect how each of the

participants dealt with his targeted words and consequently identifies his level of engagement. The following paragraphs detail how the participants' online practices during the research intervention were traced and calculated.

The number of learners' posts were counted and their contents were analysed. These showed that the learners who posted during the intervention produced 1,749 tweets containing information related to the learners' targeted vocabulary, such as words' meanings and original examples. So, as illustrated in Figure 9, the posts were classified into three categories. These three categories reflect the learners' practices to approach their targeted vocabulary. The first category includes the learners' tweets concerned with targeted words' meanings (45%). That is, any post that contains a word's meaning(s), translation or definition. The second one includes the learners' tweets concerned with the use of recently learned words in original sentences (33%). That is, any post that contains example(s) written by a learner. However, three steps were taken to discover whether the given example was original (i.e. written by the learner) or not. These were judged by the researcher himself and a colleague in the same department, and making online checks using different search engines, such as the Twittersphere and Google. The last category includes the learners' tweets concerned with sharing authentic examples from the Twittersphere that they observed and liked (22%).

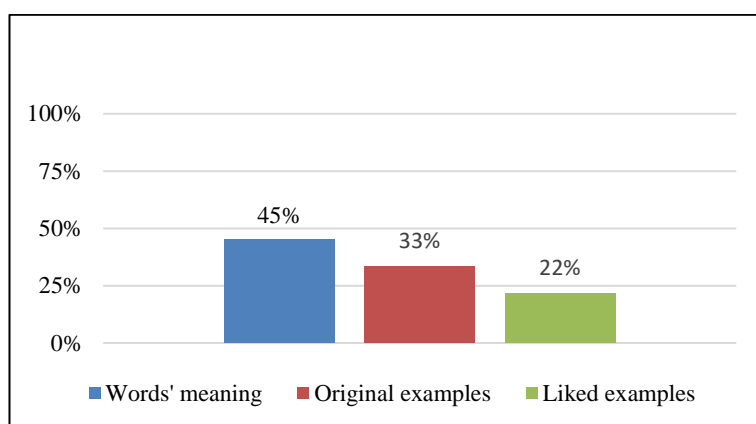


Figure 9: Distribution of the learners' tweets over categories

Moreover, Figure 10 illustrates the percentage of learners who posted and contributed to each of the three categories. It can be noticed that 79% of the learners tried to microblog about words' meanings; 77% of the learners microblogged their composed sentences in which they used their recently learned words, and 67% shared authentic examples from the Twittersphere that contain recently learned words they observed and liked.

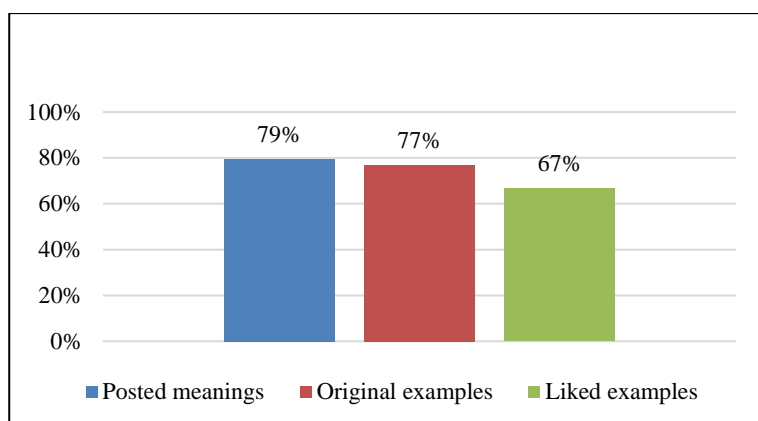


Figure 10: The percentage of learners who contributed to each of the three categories

In addition, the learners were asked to declare whether they spent some time to read other classmates' posts or not. This revealed that only two of the learners did not read their classmates' posts in the weekly hashtag. However, they used the mobile microblogging to make posts. In contrast, 80% of the learners who read the hashtag declared that they read more than 50% of their classmates' posts during the research intervention.

The learners were also asked to declare in their weekly report whether they did/did not post. This was confirmed by checking the frequency of each learner's posts as observed in the mobile microblogging tool. As illustrated in Figure 10, 36% of the participants posted reasonably regularly over a period of seven to eight weeks, 26% posted over a period of five to six weeks, 15% posted over a period of three to four weeks and 13% posted over at least one of the eight weeks' intervention. However, 10% of the learners did not make any post during the intervention. However, they declared that they used the mobile microblogging to read their classmates' posts. Accordingly, it can be summarised that 90% of the participants experienced posting and 95% experienced reading other's' posts during the use of the mobile microblogging tool and task.

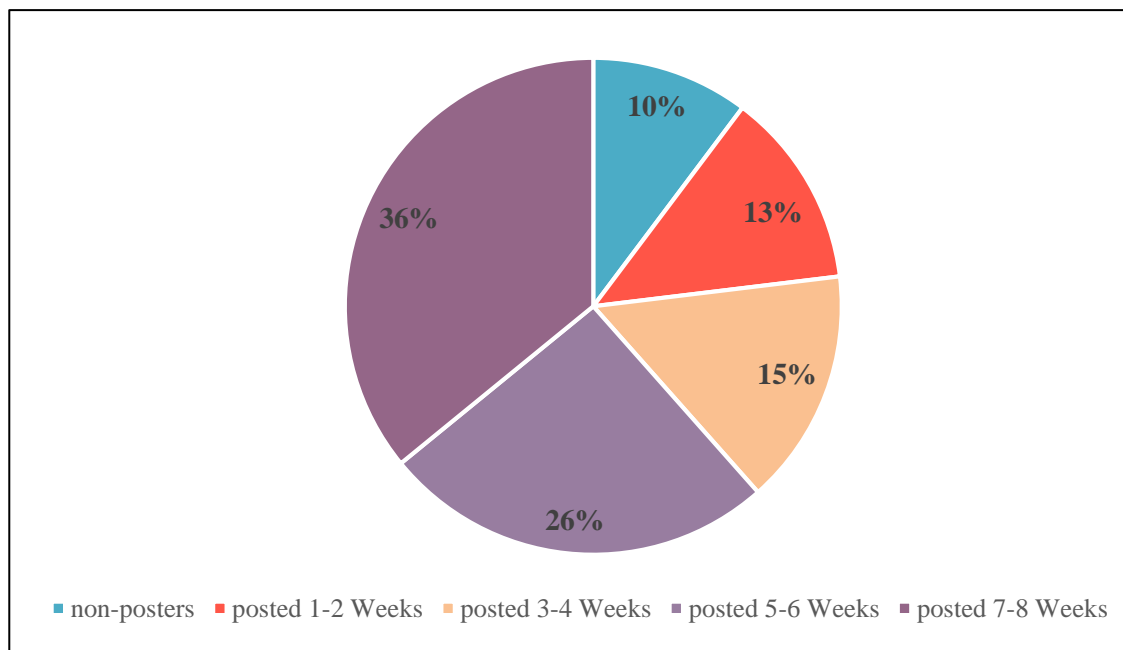


Figure 11: Percentage of the learners and the number of weeks during which they posted

Following these descriptive statistics, a number of correlational analyses were made to measure the direction and strength of the relationship between the participants' levels of involvement and engagement as reflected by their postings and their vocabulary knowledge development as reflected by the VKS results. In more detail, Twitter activity measurement which indicates the number of posts made by each learner was the first variable. The other three variables were concerned with words' meanings, original examples and liked examples. These variables were correlated with the participants' vocabulary knowledge development variable which reflects the learners' development after the research intervention.

It is worth mentioning that all the participants (those who posted and those who did not) were included in these correlations to ensure more valid results. In other words, excluding or separately correlating the non-posters could affect the validity of the results for two reasons. First, the minimum score in Twitter activity measurement variable is supposed to be 0 and thus excluding those who were scored 0 (the non-posters) would change the minimum score to a higher value (i.e. 1 or higher). Second, the 0-score given to the non-posters reflect their level of involvement and engagement with the targeted words which is supposed to be correlated with their score in vocabulary knowledge development. Accordingly, it is believed that including the non-posters ensures that the correlation between the lowest level of engagement and the development in vocabulary is not overlooked.

The relationship between the participants' vocabulary knowledge development and Twitter activity measurement variables was assessed (Table 19). A positive correlation was found between the two variables ($r = .667$, $n = 39$, $p < .05$). Overall, there was a strong positive

relationship between vocabulary knowledge development and Twitter activity measurement. Increase in the Twitter activity measurement was correlated with an increase in vocabulary knowledge development.

Table 19: The relationship between vocabulary knowledge development and Twitter activity measurement

		Vocabulary knowledge development
Twitter Activity Measurement	Pearson Correlation	.667**
	Sig. (2-tailed)	.000
	N	39

** . Correlation is significant at the 0.01 level (2-tailed).

Multiple correlation was computed to assess the relationship between the learners' vocabulary knowledge development variable and the variables, words' meanings, original examples and liked examples. Table 20 shows a positive correlation between the learners' vocabulary knowledge development variable and each of the other three variables, words' meanings ($r = .569$, $n = 39$, $p < .05$), original examples ($r = .613$, $n = 39$, $p < .05$) and liked examples ($r = .368$, $n = 39$, $p < .05$). A strong positive relationship was found between the learners' vocabulary knowledge development and two of the three other variables, namely, words' meanings, and original examples. A moderate positive relationship was found between the learners' vocabulary knowledge development and liked examples variables. Increase in the words' meanings, original examples and liked examples were correlated with increase in the learners' vocabulary knowledge development.

Table 20: the relationship between vocabulary knowledge development and words' meanings, original examples and liked examples

		Vocabulary knowledge development
Words' meanings	Pearson Correlation	.569**
	Sig. (2-tailed)	.000
	N	39
Original examples	Pearson Correlation	.613**
	Sig. (2-tailed)	.000
	N	39
Liked examples	Pearson Correlation	.368*
	Sig. (2-tailed)	.021
	N	39

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

5.3.5 Quantitative findings summary

The questionnaires' responses revealed that the participants' attitudes towards using the adopted mobile microblogging tool and task were generally positive (see 0). It has also been found that engaging the participants with their targeted vocabulary played a role in enhancing their vocabulary learning. The findings from the VKS (see 5.3.3) and Twitter activity measurement (see 5.3.4) demonstrated that the adopted tool helped in engaging the participants with their vocabulary and consequently, developed their knowledge of the targeted words. The following section will bring together, as well as crosschecking, these quantitative findings and the qualitative findings presented earlier.

5.4 Triangulation between the qualitative and quantitative findings

This section reviews and crosschecks the findings presented earlier in this chapter. In essence, it illustrates how the various findings complemented and reinforced each other. Specifically, the participants' positive attitudes and perceptions about the adoption of the mobile microblogging tool and task were possible to be elicited from the questionnaires, interviews and focus groups. Likewise, the participants' responses in these instruments assisted in understanding how the integration of Twitter as a mobile microblogging lessened the participants' struggle with vocabulary learning and increased their vocabulary gains. In the same vein, the obtained responses show how this new way of learning is beneficial, proper, flexible and comfortable.

The conclusions from the Twitter activity measurement and the weekly reports corroborated those of the interviews and focus groups in that the implementation of the mobile microblogging increased the participants' engagement with their targeted vocabulary. While the quantitative data obtained from the weekly reports and Twitter activity measurement showed that the adopted tool increased the participants' engagement with vocabulary, the perceptions expressed in the interviews and focus groups reaffirmed them. The perceived positive impact of the participants' increased engagement on their vocabulary gains and knowledge development was reinforced by the results of the VKS. In other words, the results of the VKS were in line with the participants' perceptions conveyed in the interviews and focus groups. Explicitly, engaging the participants with their targeted words via the mobile microblogging tool and task enhanced their vocabulary gains and knowledge.

5.5 Summary

The results of this chapter indicated that the new way of learning applied to vocabulary learning in this study was positively perceived. This influenced their willingness and acceptance of using the adopted mobile microblogging tool to engage and involve with their targeted vocabulary. Qualitatively, the findings reflected how the adopted tool helped the participants to approach their vocabulary learning and thus impacted on their engagement. Quantitatively, meanwhile, data has statistically showcased that the participants' increased engagement with vocabulary had an effect upon their vocabulary gains and knowledge development. The next chapter, moves on to interpret and discuss these findings.

Chapter 6: Discussion

6.1 Introduction

The current chapter presents a discussion of the findings displayed earlier in chapter 5. These findings showed that the participants' attitudes towards vocabulary learning and the adoption of the mobile microblogging to approach vocabulary learning had been positively improved after the research intervention. Also, they demonstrated that the adoption of the mobile microblogging helped to promote the learner's engagement with vocabulary learning and thus impacted on their vocabulary gains and knowledge development. Moreover, it identified a number of challenges that were encountered during the research intervention. These findings will be revisited, further discussed and related to previous research for the sake of answering the research questions.

The chapter is structured in accordance with the three research questions. Specifically, it discusses the findings related to each research question and then, explicitly, provides their answers. Accordingly, the chapter begins by discussing how the learners perceive the adoption of Twitter as a mobile microblogging tool to approach their vocabulary learning. It then moves on to discuss how the adoption of the mobile microblogging tool helped in promoting the learners' engagement with their targeted vocabulary. Next, it discusses the impact of engaging the learners with vocabulary on their vocabulary gains and development of knowledge. Then, it introduces the pedagogical framework that guided the use of the adopted tool and task to facilitate and promote learners' engagement with their targeted vocabulary. Finally, in the following section, it explicitly presents the research questions and their answers.

6.2 Learners' perceptions about the adoption of mobile microblogging to approach vocabulary learning

This section discusses the findings related to the first research question and its sub-questions. The questions are concerned with investigating the learners' attitudes and perceptions about the adoption of Twitter as a mobile microblogging tool to approach vocabulary learning.

- 1) How do EFL learners perceive the adoption of mobile microblogging to approach vocabulary learning?
 - a. What are EFL learners' attitudes towards vocabulary learning before and after the research intervention?

- b. What are EFL learners' attitudes towards utilising a mobile microblogging tool to approach vocabulary learning before and after the research intervention?
- c. How does mobile microblogging help EFL learners to approach vocabulary learning?
- d. What challenges might be encountered?

The discussion of the findings related to these questions will be divided into three sub-sections. The first sub-section discusses the findings related to the learners' attitudes towards vocabulary learning and mobile microblogging. The second sub-section focuses on how the learners utilised the adopted tool to approach vocabulary learning as well as how it complemented their existing practices to approach vocabulary learning. Finally, the last sub-section discusses the challenges encountered by the learners during their use of the adopted mobile microblogging tool and task.

6.2.1 Participants' attitudes

This section is concerned with the sub-research questions 1.a. and 1.b. These questions investigate the attitudes of the learners towards vocabulary learning and the adoption of the mobile microblogging to approach vocabulary learning. This research used qualitative and quantitative data from pre- and post-questionnaires and post semi-structured interviews to explore the learners' attitudes. As anticipated, the findings from this research show that the learners' attitudes have positively changed after experiencing the mobile microblogging to approach vocabulary learning during the eight weeks' intervention.

With respect to the learners' attitudes towards vocabulary learning, the results demonstrated that the learners generally have positive attitudes towards vocabulary learning. In addition, it showed that their attitudes were slightly improved after the research intervention. Most of the learners think that vocabulary is an important part of language learning. However, what is surprising is that almost half of the respondents (44%) considered vocabulary learning difficult. This observation is noticeably different from that observed by Altiner (2011) who investigated the use of Anki as a technological tool to improve vocabulary learning and found that most of his participants considered learning vocabulary difficult.

Turning now to the learners' attitudes towards the use of mobile devices and Twitter (the mobile microblogging tool) to approach vocabulary learning, the findings demonstrated that the learners' attitudes have positively changed after the research intervention. These are unsurprising but encouraging findings as they broadly support the work of previous studies concerned with learners' attitudes towards the adoption of a technology to facilitate learning (Alzahrani, 2013; Başoğlu & Akdemir, 2010; Hsu, 2013; Yu et al., 2010). To be precise, it is evident from both quantitative and qualitative data that more than two-thirds of the learners enjoyed learning via the adopted tool. They also perceived the adopted tool as useful and easy to

use as well as this way of learning as convenient, flexible, and comfortable. Moreover, they emphasised its effectiveness in relation to their knowledge development. More specifically, it facilitated learning words' meanings as well as enabled encountering recently learned words in authentic examples. For instance, one of the learners pointed out that "in Twitter, we can feel convenient to learn. It is more effective to learn in mobile".

In line with previous research, five factors could explain how the adoption of the mobile microblogging tool affected the attitudes of the current research participants. Firstly, the perceived ease of use, i.e. the simplicity of using the tool and its technical features to engage with targeted vocabulary by exchanging vocabulary knowledge as well as reading classmates' and others' posts (Davis, 1989). Secondly, the perceived usefulness (Davis, 1989), i.e. the facilitation of learning targeted vocabulary in a better way. Thirdly, the perceived convenience and flexibility of learning (Martin & Ertzberger, 2013), i.e. the learner's ability to learn at his convenience, anytime, anywhere and as desired. Fourthly, the perceived stress and anxiety relief which is referred to as providing learners with a learning environment that is more comfortable, calm, stress and anxiety free. Fifth, the perceived effectiveness (Azar & Nasiri, 2014), i.e. the positive effect of using the adopted tool on learners' vocabulary knowledge development resulted from engaging them with targeted vocabulary materials, exchanging relevant information and authentic examples, providing and obtaining support while outside the language classrooms.

However, a note of caution is due here since the responses of a few participants show contradictory attitudes. A number of factors that could lead to internal contradictions with regard to learners' attitudes towards the adopted mobile microblogging tool and task have been uncovered by the findings of the current research. First, the effect of prejudgment practice. This means to say, the prejudgment practised by some learners seemed to influence their acceptance and willingness to use the adopted tool and task and thus their attitudes. To illustrate, one of the respondents, who decided not to use the adopted tool and task during the first weeks, explained why he changed his view and started to feel positive about the adopted tool and task. In particular, he said: "My participation in the classroom was very little in comparison to my other classmates. I noticed that all of them had known about the new words' meanings and how to use them".

Second, issues associated with the nature of the learning task. That is, some of the participants, who expressed positive attitudes towards the adopted tool and task in general, appeared to have negative attitude towards a specific activity in the learning task (e.g. writing, sharing). For example, one of the participants stated that he started to feel bored of writing after some time. It seems possible that the learner's boredom was due to his lack of interest in using his phone to

type his example sentences or words' meanings. However, there is another possible alternative explanation which is related to the difficulty and complexity associated with using recently learned words to write sentence examples. More specifically, this seems to refer to the difficulty associated with 'evaluation' which is the cognitive component of the Involvement Load Hypothesis (Laufer & Hulstijn, 2001). This cognitive component is concerned with evaluating a recently learned word through (1) comparing the learned meaning(s) of it with its other meanings, (2) comparing it with other words to check its suitability and/or (3) usability in a given context.

It can therefore be assumed that learners' contradictory attitudes reflected how they responded to the emergent factors they realised. Comparison of the findings with those of other studies confirms that learners' attitudes are sophisticated and could be affected over time by the possible interference of various emergent factors (Adolphs, 2005; Subtirelu, 2013). Accordingly, further longitudinal investigations are needed to elicit additional factors not discussed here or previously in the literature.

6.2.2 Approaching vocabulary learning

This section is concerned with the sub-research questions 1.c. which investigate how the adoption of mobile microblogging help the learners to approach vocabulary learning and complement their existing practices to approach vocabulary learning. In order to investigate these issues, this research used qualitative and quantitative data from post semi-structured interviews, focus groups, weekly reports, responses to open-ended questionnaire's items, the post-questionnaire, and the learners' posts. The findings related to these two research sub-questions showed that the adoption of the mobile microblogging helped the majority of the learners to approach their vocabulary learning as well as complementing their existing learning practices. These were particularly significant because they reflect the participants' satisfaction with the mobile microblogging features and how they facilitate learning. Each of these features will be discussed in relation to the sub-question 1.c.

The perceived easiness was referred to earlier with respect to the learners' attitudes, in 6.2.1. However, in the current section, it is discussed with respect to how it helped the learners to approach their vocabulary learning. The perceived easiness incorporates three types, namely, ease of use, ease of access and ease of learning. Ease of use refers to the ease of using and dealing with the tool, while ease of access refers to the ease of accessing relevant vocabulary learning information to learn based on their own as well as the collective knowledge of other classmates outside the language classroom. Finally, ease of learning refers to the simplicity and usefulness of using the adopted tool to approach vocabulary learning. These were referred to by

a number of learners who illustrated how they utilised the tool to approach their vocabulary learning. For instance, one of the interviewees pointed out how the easiness of using the tool as well as accessing information relevant to targeted vocabulary made learning easier and better.

مق – م ٢٢: هو حلو يعني وسهل. تقدر تخش كل واحد معه جواله ويقدر يدخل ويغرد ويبحث وزى كذا.

P22_INT: It (mobile microblogging) is nice and easy. You can access... everyone has a mobile device and can access, tweet, search and so on.

This finding is in agreement with previous research (Hsu, 2013) which suggest that participants who perceive the tool as easy to use will be motivated to devote more of their time to vocabulary learning. For example, a number of the learners alluded to the fact that learning via their mobile devices that they carry and use all the time is easier than carrying and learning from their textbooks and thus more motivating. It also corroborates the findings of previous work (e.g. Davis, 1989 and Yates et al., 2015) in that the easiness of the e-tool minimises the learners' distraction and thus increases their attention to their targeted vocabulary learning. In other words, if learners experience difficulty using an educational technology tool they might be distracted from learning and thus have poor vocabulary gains.

Learning anywhere, anytime was perceived by the learners as a useful feature that helped them to approach vocabulary learning. A possible explanation for this might be attributed to Schmitt's (2010a) notion of engagement with vocabulary which incorporates that extending the learners' time spent on their targeted vocabulary is presumed to aid learning and retention. That is to say, the adoption of the mobile microblogging tool and task allowed the learners who often used to deal with their unknown words during their regular class time and/or before an exam to invest their previously unproductive time in learning. This includes searching words' meanings, posting meanings and original examples, reading classmates' posts and exposure to authentic usage of recently learned words in the Twittersphere as desired, anytime or anywhere. The learners also referred to the fact that the adoption of the tool and task extended their usual face-to-face class activities by providing such an e-learning platform through which they were enabled to share, communicate, support and learn together as well as from each other.

These findings are broadly similar to the findings of other studies. This includes the studies which suggested that the adoption of educational mobile technologies allows learners to invest their previously unproductive time to learn at locations and times of their choice (Cui & Bull, 2005; Hlodan, 2010; Llic, 2013; Lu, 2008; Palalas, 2012; Sharples, 2000; Sharples et al., 2007; Stockwell, 2007). Also, the studies which suggested that the integration of web 2.0 technology extends the learners' face-to-face class activities and enables them to take place while outside the classroom (Al-Shehri, 2011; Carter, 2011; Junco et al., 2013; Junco et al., 2011; Kassens-Noor, 2012; O'Reilly, 2005; Schroeder et al., 2010).

Searching information related to the learners' targeted words was also perceived positively by the learners. The learners who commented on their experience of searching information related to their targeted words in the microblogging tool felt that this feature was helpful. They also alluded to the usefulness of the results (tweets) that were returned by their search and their effect on their learning outcomes. While the learners were required to only enter one of the targeted words in the search bar in Twitter, the results that returned were many and varied in terms of type and content. These included tweets that could be produced by individuals including classmates or other users of Twitter. Moreover, if the searched word is, or is part of, a topic keywords or hashtag that already exists, the learners could observe it and thus possibly try to guess its meaning and/or notice how it is used in ongoing conversations. In addition, the learners commented on the types of information they encountered in the resulted tweets from their search. These include information related to their targeted words' meanings, explanations posted by classmates, photos and authentic examples produced by authentic people.

In agreement with the findings of previous research, the current research suggests three reasons that could explain why the learners perceived the searching feature offered by the adopted tool as well as returned searching results as useful (i.e. aided their vocabulary learning). First, the benefit of the searching features offered by the adopted tool as well as other online and/or offline e-tools, and how they could ease finding relevant materials and thus facilitate learning (Abdous et al., 2009; Alzahrani, 2013; Cox, 2012; Oblinger et al., 2005; Rahamat et al., 2011; Salvia, 2000; Song & Fox, 2008). Second, the emphasis previous research has put on the significance of using an online concordancing tool to find authentic examples of language use to aid learning (Flowerdew, 1993; Lee et al., 2015; Sun & Wang, 2003). In line with such previous studies, Twitter as a microblogging tool functioned as an online concordancing tool that enabled the learners to find authentic examples of language use and thus aided their vocabulary learning. Third, the inclusion of the component 'search' as a main part of the designed vocabulary learning task which, in line with Hill and Laufer (2003), is presumed to increase the effectiveness of the task as well as to aid vocabulary learning

However, it is important to bear in mind a number of potential problems in the results that are returned from searching in Twitter. This means that the contents of some of the resultant tweets could frustrate the learners and thus distract rather than facilitate learning. Specifically, the learners could be distracted when the contents of some of the resultant tweets they encounter could: (a) contain abbreviations that they cannot figure out or understand, (b) contain difficult or low-frequency words, (c) contain texts or display photos that might be considered inappropriate in some contexts and (d) be meaningless or not useful for the learners. Yet, as discussed earlier in 0, these issues were predicted and considered in the design of the current task and thus the learners were instructed in advance on how to deal with their search returned results.

Consequently, only two inappropriate tweets were observed during the research intervention. That is to say, the instructions provided to the learners before the intervention seemed to assist in raising their awareness and thus they found the searching feature useful.

Another related feature that was positively perceived and appeared to ease and facilitate learning was the use of one hashtag (#coursename). This is due to the fact that the hashtag feature helped in grouping all the learners' posts as well as displaying them in a chronological order. Consequently, searching other classmates' posts was made possible and easier. To illustrate, the learners were instructed to include the hashtag name in their posts and thus all the posts were automatically grouped under one hashtag. This helped the learners who wanted to read their classmates' posts to achieve this by entering the course hashtag in the search bar in Twitter. The results that are returned would include only the learners' posts that contain the course hashtag and exclude all other tweets. Hence, this gave the learners the choice to observe the tweets written by their classmates only, extend their search to observe tweets written by others, or both. The perceived benefit of using the hashtag feature might be explained by claiming that it enabled the learners to access each other's posts and thus learn together as well as from each other. This finding corroborates the ideas of Lin et al. (2013) and Ross (2013), who alluded to the benefits of utilising the hashtag feature to group course-related posts into one timeline and how this could facilitate group learning.

Connecting with other classmates or authentic people through posting and/or reading 140-character posts in the Twittersphere was referred to by some participants as talking. This means to say that some learners seemed to think of the posts they sent or read as written spoken messages. This is likely to be related to the 140-character restriction that distinguishes Twitter as a microblogging tool from other social tools. This is unsurprising as it broadly supports previous studies that regarded the interaction in Twitter to be like usual spoken language (Gimenes & New, 2016). Also, the studies that put emphasis on how Twitter has glorified the concept of reciprocity in a way that is impossible in other social networks (Carter, 2011; Ebner et al., 2010).

A variety of perspectives and conflicting discourses were found in relation to how the learners perceived reading and writing 140-character posts to approach their vocabulary learning (see 5.2.5.4). To illustrate, some of the learners' responses regarding the allowed length of the posts manifested a contradiction if one compares their views on reading a post versus writing one. In other words, some indicated their wish to write with no character count restriction while simultaneously expressing satisfaction to read shorter sentences when it comes to reading posts crafted by others. For instance, it was stated by one of the interviewees that:

مق – م ٢٩: أتوقع أن الطويلة لا لا، ما راح أقرأ لكل واحد أنا، يمكن ولا حتى وحدة، لكن أنا لما أكتب أحب أخذ راحتي

P29_INT: if the posts are long, I think no... no, I will not read for everyone... I might not even read a single one. But when I write, I do not like to be restricted.

However, these perspectives may best be discussed in terms of two main aspects, namely perceived learning benefit and learning challenges.

With respect to the perceived learning benefits, the learners found it beneficial to read/write 140-character posts that contained targeted-vocabulary-related information and example sentences. The shortness of the posts appeared to support the process of vocabulary learning in a number of ways. These ways explain how short posts can facilitate vocabulary learning. First, it enabled the learners to focus on learning their targeted items. In other words, the learners suggested that long texts are expected to contain unknown words and thus these unknown words are more likely to distract rather than facilitate learning a targeted word (Altiner, 2011). Second, it enabled the learners to have a better vocabulary learning. That is, the shortness of the posts that contained targeted-vocabulary-related-information allowed the learners to read more meanings of targeted words, cover more information in a short time and absorb the posts' contents better (Altiner, 2011). Third, instead of exposing a targeted word once or twice in the language classroom, it allowed the learners to expose their recently learned words frequently in many meaningful example sentences as well as contexts (Joe, 2010; Schmitt, 2010a). These include those produced by other classmates and authentic examples available in the Twittersphere. Fourth, short posts encouraged the learners to engage with the targeted words, especially those whose language level and/or vocabulary size was low as well as those who lack interest in learning and/or reading long texts for either formal learning or any other reason.

With respect to the perceived learning challenges, a number of learners raised an issue related to the shortness of posts that deserves to be considered. That was reading or posting about some difficult words might require more information and/or longer example sentences and thus 140-chacters might be restrictive. At the same time, however, a number of attempts to overcome such restriction were reported. While most of these attempts were initially made to overcome the challenge of the 140-character restriction, they appeared to contribute to the learning process. To illustrate, the comment below displays how one of the learners used to deal with the 140-character restriction and how that made learning better.

مق – م ٢٦: لما أنا أكتب طبعاً تجيني مشكلة لما أكتب وأوصل معلومة وكل شيء بس أنه طبعاً بعد ما أخلص ال ١٤٠ حرف أحاول أعديل في كلامي وأحاول الخصه لدرجة إني أوصل المعلومة بدون ما أضيع أي شيء من الكلام اللي أبغى أوصله. أكتب ١٤٠ حرف وأوصل اللي أبغاه أحسن أنه أحسن ... أفضل لي في التعلم وأفود.

P26_INT: When I write of course I face a problem... when I write to convey something ... and everything but of course when I am done with my 140 characters, I try to change my post in an attempt to condense my ideas in order not to lose any point I want to convey.

Writing 140 characters that convey what I have in mind is better for me... it is better and more useful.

Accordingly, the 140-character limit appeared to inspire the learners to keep messages short and concise and thus focus on learning. This finding is in agreement with that of Ebner et al. (2010) who suggested that the shortness of the posts forces the students to concentrate on learning.

It was perceived by the learners that the adoption of mobile microblogging helped to reduce their anxiety and stress and thus established a relaxed learning atmosphere that increased their engagement as well as encouraging them to be active learners. To illustrate, the learners' responses alluded to two main sources that appeared to cause their negative feelings of anxiety and/or stress. First, personal factors, including feelings of discomfort when required to engage in learning at undesirable times and/or places, such as in the classroom. Second, group learning activities which incorporates (a) fear of losing one's face by making mistakes, (b) causing another classmate to lose his face by correcting his mistakes, (c) feeling of shyness to talk in a face-to-face classroom and (d) fear of receiving negative comments from other classmates. On the contrary, the use of the mobile microblogging to approach VL helped the learners to learn comfortably, at their own convenience and pace. It also freed them from being required to learn, participate, comprehend and take part in activities during the limited time of the usual classroom. In other words, it allowed them to enjoy learning in a relaxed learning environment which is presumed to enhance the learning process as well as acquisition. These findings are in agreement with previous research in that EFL learners' physiological factors, such as anxiety and stress, are presumed to hinder learning development and acquisition (Andrade & Williams, 2009; Kitano, 2001; Li, 2011; Littlewood, 1984).

In addition to establishing a relaxed learning atmosphere, the adoption of the mobile microblogging task helped to facilitate social interaction and thus established a supportive social learning environment. The establishment of the supportive learning environment increased the learners' engagement in social learning activities as well as the amount of interaction focused on their targeted items, which affected the learning process and acquisition of the targeted words positively. This indicates that the learners seemed to have benefited from taking part in different social activities. These include collaboration, sharing existing knowledge, and providing and receiving scaffolded support through social interaction (see 5.2.5.9). Engagement in such social activities that require social interaction is presumed to direct the less capable learners to notice important aspects or dimensions of knowledge which were highlighted through social interaction with other more capable learners and thus impact cognitive development of knowledge (Lantolf & Thorne, 2007; Mitchell et al., 2013). Consequently, the interference of social interaction with cognitive processing of vocabulary as well as acquisition cannot be ruled out (Li, 2011; Mills, 2011; Schmitt, 2010a).

These findings broadly support the work of previous research in that the adoption of web 2.0 technology enables learners to interact with one another, their teacher and/or authentic language users and thus can facilitate social support (Carter, 2011; Dhir et al., 2013; Ebner et al., 2007; Ghirardini, 2011; O'Reilly, 2005; Parameswaran & Whinston, 2007). Also, they coincide with previous research which asserted that social interaction, which incorporates different social activities, such as knowledge sharing, discussion, and collaboration, is central to cognitive development (Lantolf & Aljaafreh, 1995; Lantolf & Appel, 1994; Lantolf & Thorne, 2007; Li, 2011; Mills, 2011; Mitchell et al., 2013; Schmitt, 2010a).

Another important finding that was positively perceived by the learners was exposure to authentic usage of targeted lexical items in interactional conversations. To illustrate, the learners described how the exposure to authentic usage of targeted words in real meaningful contexts motivated them to learn as well as supported their learning of words' meanings and usages. For instance, one of the interviewees explained how connection with the real world via Twitter, as well as exposure to authentic interactional conversations could facilitate learning words' meanings and usages. He said: "You see everything (language aspects) as it is used by them. To the contrary, imagine, we only had the textbook... you never know what is happening outside (real world) or what English speakers write... in your textbook and that's it".

Moreover, learning from authentic language in the Twittersphere inspired a number of participants to go beyond learning the strict meanings of words and dragged their attention to the connotational or cultural meaning(s) some words might have. This was referred to by some respondents in different ways. For example, one of the participants supposed that as a learner "You will not be able to know the meaning of some words until you live with them (native speakers)". Another one labelled this issue as 'their way of thinking'. He explained that as a learner "you acquire the word and their (native or English speakers') way of thinking.... Because, sometimes, you think of a word and its meaning in a way, but some people understand it in a different way".

This can be explained by the fact that enabling the participants to have exposure to authentic usage of their targeted words seemed to contribute to learning both (1) denotative or literal and (2) connotative or cultural meaning(s) of some L2 words. That is, some words can carry connotative meanings when used in phrases and/or when used to form compound words, let alone their denotative or literal meanings. While learning a word's denotative meaning(s) can be attained by consulting dictionaries or seeking help from other sources or more knowledgeable others, learning its connotative or cultural meaning(s) that is (are) common among L2 speakers requires learners to be in touch with L2 speakers and/or have enough access to relevant authentic materials.

Consistent with previous literature, four factors could explain how the adopted tool facilitated as well as complemented the participants' existing learning practices and consequently aided their learning. First, the adoption of the tool enabled the learners to connect with the real world where English is being used authentically (Levy & Stockwell, 2006). This means to say it allowed them to observe how their targeted words are/can be used in authentic conversations. Second, instead of being limited to the context of the language class and/or the textbook, it offered the learners opportunities to expose their targeted words in different as well as real contexts (Flowerdew, 1993; Lee et al., 2015; Roberts & Cooke, 2009; Sun & Wang, 2003). Third, it bridged the gap between EFL learners who live in non-English speaking contexts and real English speakers from whom they can learn (Schwienhorst, 2012). Fourth, the contact with English speakers appeared to motivate the learners to be more active and engaged with their learning (Guariento & Morley, 2001).

In addition, the responses reflected the subjective views of some learners who presumed that all use of English on Twittersphere is equivalent to native English. The reason for this is not clear but it may have something to do with the nature of Twitter as a social networking tool or learners' subjective views about the use of English in the posts. With respect to the nature of Twitter, readers can check posters' profiles and find personal information about them, including their names, photos, short descriptions of themselves or professions and locations. Accordingly, it is possible that these participants were aware that the language they encountered was produced by native speakers of English. On the other hand, it is speculated that these participants tended to look at the quality of the used English language first and then consider benefiting from them to aid learning. This could be associated with the fact that participants were guided on how to deal with useless posts before they start using Twitter (see 0). Consequently, these participants viewed the used English language in the Twittersphere as equivalent to native English.

Furthermore, the findings have indicated that the adoption of the mobile microblogging tool supports different concepts of learning. These include autonomous learning, learner-centred learning, and unintentional learning. With respect to the concepts of autonomous and learner-centred learning, the adoption of the mobile microblogging tool appeared to foster a more autonomous and learner-centred learning environment. This was alluded to by a number of students who viewed that the adoption of the microblogging tool encouraged them to take the initiative to deal with targeted words that are needed in their course instead of totally relying on the teacher, as they used to do. For instance, one of the interviewees pointed out that:

م ٢٦ - مق: كان (استخدام تويتر) يخلي الشخص يحضر الكلمات قبل ما يجي الكلاس. والشئ هذا نادراً ما الطلاب يسووه، إنه الإنسان يحضر ويشوف الكلام اللي عليه ويشوف الكلمات اللي عليه، هذا الشئ قاذي كثير صراحة.

وكمان الشيء الثاني اللي هو إنه في الكلاس نفسه بدل ما كنت اسأل الدكتور والا أستفسر منه عن كلمة والا كلمات أكون أصلاً قد قرّيت وعرفت معناها.

P26_INT: It (using Twitter) allowed the student to study and prepare the words before attending the class, which is something students rarely do... that is a student prepares the words he need to learn. That was so useful for me. The other thing is that during the class, I rely on my knowledge from reading and learning words' meaning instead of asking the teacher about one word or more.

The learners' independent efforts and attempts directed towards vocabulary learning were exhibited in their posts and interactions as much as it was reflected in their participation in the language classroom.

In agreement with the findings of previous literature, several factors could illustrate how the adoption of the mobile microblogging tool assisted fostering a more autonomous and learner-centred learning and thus have positively impacted their vocabulary learning. First, it armed the learners with a powerful e-tool that can be used to approach vocabulary learning. This comprises searching and sharing words' meanings and definitions, observing and practising recently learned words, obtaining and providing support as well as exchanging information related to targeted lexical items. Second, it enabled the learners to be free learners in a number of ways (Little, 2007; Stockwell, 2013), including freedom of location and time (Llic, 2013), freedom to decide their own vocabulary learning resources (Brandl, 2002), and freedom to decide on who to interact with (Belz, 2002). Third, it transferred the responsibility to the learners to be involved in creating accessible vocabulary learning content in the course hashtag (Nikolova, 2002). That is, the learners were supposed to share information, such as the words' meanings and/or definitions after looking up their meanings in either English-English or English-Arabic dictionaries.

Additionally, consistent with the results of Moir and Nation's (2008) study, the responses of the research participants indicated that using the adopted mobile microblogging tool and task helped them to feel that they were learning on their own and consequently, enhanced their vocabulary learning. Also, the previous research that stressed on promoting effective learning by transferring the responsibility to the learners as well as the criticality of engaging EFL learners with vocabulary to enhance learning (e.g. Little, 2007; Schmitt, 2010b; Hulstijn & Laufer, 2001; Joe, 2010; Rott, 1999).

The response of the learners indicated that the adoption of the tool offered them opportunities to learn new words and/or aspects of words' knowledge unintentionally. In other words, the use of the microblogging tool enabled some participants to go beyond their primary learning goals and learn new words and/or aspects of language they did not intend to. As stated by one respondent, ““while you intended to learn one word, you learn approximately ten words””. This finding may reflect the fact that rather than being limited to what textbooks and what teachers teach, learning

in a connected and authentic environment can offer the learners many opportunities to learn unintentionally. It is also consistent with Anderson and Dron (2014) who suggest that social networks can facilitate intentional and unintentional learning.

6.2.3 Challenges

The discussion in 6.2.2 has described some of the perceived benefits of mobile microblogging and how it can be used by EFL students to approach vocabulary learning. However, it would be incomplete if the discussion disregards potential challenges or obstacles related to the adoption of the mobile microblogging tool and task to approach vocabulary learning. Though the adoption of the mobile microblogging tool and its various features offered a great deal to EFL students, it was not without problems. Hence, this section discusses the findings related to the last sub-research question 1.d. which is concerned with the challenges and obstacles that have been experienced by the learners.

Lack of sufficient access to the internet is still a challenge or an obstacle for a number of learners. The use of mobile microblogging, as a web 2.0 technology, for learning required the learners to have internet connection. Consequently, a number of learners were not able to use the tool to approach their vocabulary learning because of the lack of sufficient connection in their devices. The comment below illustrates this observation.

م ١٦: أنا شخصياً ما عندي إنترنت في الجوال، بينما الخدمة موجودة عند آخرين، يعني لو كان عندي خدمة إنترنت ربما ممكن أشيك على الهاشتاق. كذلك الواي فاي في الجامعة موجود ولكن ما يشيك.

P16_FG: I personally have no internet connection on my mobile phone. If I had this service, I would check the (course) hashtag... Also, the university's Wi-Fi connection is not working.

This finding can be traced back to the inability of some learners to afford to pay for an internet connection as well as the lack of a reliable Wi-Fi connection on campus. It is consistent with that of Alebaikan (2010), who found that lack of sufficient access to the internet is still an obstacle for some learners.

Issues related to account and learning information protections were expressed by a few participants. In other words, those learners were concerned about losing their Twitter accounts and/or posts containing targeted-vocabulary-related information. However, their responses indicate that their concerns were mainly associated with learning issues, not with online safety issues. To illustrate, the learners spent time and effort to search, learn, produce original sentences and share existing knowledge with other classmates in Twitter. If they lose their accounts or if their posts were removed, all of these will be lost. For instance, one of the focus

groups' participants compared the use of traditional notebook and Twitter in relation to approaching vocabulary learning. He said:

م ٣٢ - مق: لمن يكون عندي في دفتر يبقى عندي شيء مثلاً من الذكريات، أراجع أشوف بعد سنة ونص، سننين، هل أنا تحسنت؟ لكن تغريدة في تويتر (حفظ التغريدات)، يمكن إنك حسابك راح أو إنحذفت التغريدة.

P32_FG: ... Using the notebook will benefit me in terms of returning to it after one or two years to check how I have improved. However, in the case of keeping the tweets in Twitter, you might lose your account information or the tweets might get deleted.

Accordingly, they appeared to be worried about the consequences of a probable loss of their learning efforts and outcomes and not from issues related to accounts or personal information hacking.

However, these findings differ from those suggested in the previous research. While the findings in the current study were mainly concerned with protecting learning efforts and outputs, other studies were concerned with other issues. These include the presumption that e-safety is associated with teachers' lack of authority as well as lack of a controlled learning environment (Traxler, 2010), issues concerned with exposure to inappropriate materials (Sharples et al., 2009) and violation of privacy (Katz, 2012).

Usability concerns was an issue that seemed to lead a few of the learners to become frustrated. In other words, the learners who have no prior experience of using educational technology for learning as well as those who had a hard time using the adopted tool appeared to feel somewhat frustrated. However, the learners' familiarity grew as they used the adopted tool as well as consulting other more experienced classmates (see 5.2.8.4). These findings match those observed in earlier studies. They put emphasis on the importance of providing sufficient training for the learners in how to use the adopted tool so that they can take full advantage of the affordances of it (Hubbard, 2004). Backing up the provided training with support is crucially fundamental to ensure the adopted tool is utilised as effectively as possible (Hubbard, 2013; Lin et al., 2013).

Affording time to participate in the mobile microblogging task was another challenge that a few of the learners experienced. A number of informed reasons might explain why learners could sometimes have trouble to afford time. First, personal/family commitments that sometimes require time. Second, work commitments, as some students might work while studying. Third, academic learning commitments, such as preparing for exams and assignments.

6.3 Promoting engagement with vocabulary learning

This section discusses the findings related to the second research question which is concerned with the impact of adopting the mobile microblogging to involve and engage EFL learners with

their targeted vocabulary. Many researchers presume that the adoption of educational technology could afford ways to engage learners with their targeted learning (Franklin & Peng, 2008; Martin & Ertzberger, 2013). Promoting engagement with vocabulary, in particular, is presumed to be a critical factor that affects the learning process as well as retention (Schmitt, 2010b).

The current research intends to stimulate EFL learners' engagement with their targeted vocabulary via the use of Twitter as a mobile microblogging tool and task. The research intervention was developed based on the Involvement Load Hypothesis (Laufer & Hulstijn 2001) as well as the notion of engagement with vocabulary (Schmitt, 2010a). It adopted Twitter as a mobile microblogging tool to prompt the learners to involve and engage spontaneously with their targeted words. The learners who went throughout all the steps of the intervention were involved and engaged with the targeted words in the following ways.

1. Involvement in learning words required in their course.
2. Involvement in searching word's meanings which might incorporate:
 - a. consulting a dictionary
 - b. consulting classmates shared posts through checking the course hashtag
 - c. searching in both, any preferred resources and in the course hashtag.
3. Involvement in evaluating recently learned words by observing them in the posts of other classmates and/or authentic people in the Twittersphere as well as using them to compose example sentences. These incorporate:
 - a. comparing the learned meaning(s) of a word with its other meanings
 - b. comparing a recently learned word with other words to check its suitability in a given context
 - c. comparing a recently learned word with other words to check its usability in a given context.
4. The shortness of the posts can increase learners' attention focused on targeted lexical items.
5. The adoption of the tool helps to increase the amount of time learners can spend on lexical items in the following ways:
 - a. stimulating the learners to devote previously unproductive time in vocabulary learning any time anywhere
 - b. extending usual face-to-face class activities to take place beyond the language classroom by enabling the learners to exchange vocabulary-related information, communicate, support and learn together as well as from each other.
6. The adoption of the tool helps to increase the amount of interaction spent on the targeted lexical items in the following ways:

- a. sharing words' meanings, composed (written by the students) and liked (written by authentic people) examples
 - b. providing and seeking support to learn a word
 - c. re-tweeting, liking or commenting on other classmates' tweets.
7. All that has been mentioned earlier led to an increase in the frequency of encounters to the targeted words.

Engaging EFL learners with their targeted materials is among the difficulties language teachers often confront in traditional learning environments (Dhir et al., 2013). In agreement with this, a number of the research participants pointed out that their involvement and engagement with vocabulary were noticeably lower prior to the current course. They listed three reasons explaining that: (1) lack of enough exposure to vocabulary beyond the classroom, (2) lack of recently learned words use and practice, and (3) lack of social support (e.g. scaffolding by more knowledgeable others) while outside the classroom. Accordingly, it can be claimed that lack of sufficient involvement and/or engagement with targeted words could lessen the effectiveness of learning. This is supported by the assumption of the Involvement Load Hypothesis in that less effective vocabulary learning tasks are associated with a lower involvement load (Laufer & Hulstijn, 2001). It also agrees as well with a number of empirical studies (e.g. Hill & Laufer, 2003; Hulstijn & Laufer, 2001; Beal, 2007; Ghorbani & Rahmandoust, 2012).

In opposition to this, other findings obtained from the qualitative and quantitative data indicate that the adoption of the mobile microblogging task offered the learners opportunities to approach their vocabulary learning (see 6.2 for more details) and thus increase their involvement and engagement. These include emotional, behavioural, social and cognitive engagement and involvement with their targeted words.

The learners' attitudes towards the use of mobile microblogging to approach their targeted vocabulary demonstrate that they were emotionally engaged. The students perceived learning through the mobile microblogging tool as enjoyable, convenient, flexible and comfortable. Moreover, they expressed their satisfaction about its effectiveness on their vocabulary knowledge development. This can be explained by claiming that if the learners' feelings about the adopted tool, vocabulary learning, and/or learning task were negative, they might rule out and refuse to engage with any learning activities. Consequently, it is significant to consider and promote the learners' emotional engagement as it is associated with their willingness to engage behaviourally and cognitively in learning (Fredricks et al., 2004).

Based on that, the learners' emotional engagement appeared to influence the learners' behaviours and willingness to participate in the given weekly task. To illustrate, many of the learners stated that their engagement with vocabulary was limited to class time and they used to

rely on their teacher and his explanations to learn. However, the presence of the mobile microblogging tool inspired them to take the initiative and thus change their learning behaviours. These incorporated taking more responsibility for one's learning and spending efforts to access the adopted tool, search, read others' posts, and/or exchange targeted-vocabulary-related knowledge. In other words, the use of the mobile microblogging affected the students' learning practices positively and increased the amount of exerted efforts towards the targeted vocabulary learning and acquisition. This finding agrees with the claims of Fredricks et al. (2004) in that behavioural engagement is central to enhancing the learning outcomes. It also coincides with previous studies which suppose that the adoption of a social networking tool can afford ways to increase learners' engagement (Junco et al., 2013; Martin & Ertzberger, 2013).

A higher level of engagement was also reflected in the learners' responses and online learning practices, namely cognitive engagement. To clarify, the learners' posts demonstrated that they had engaged mentally with their targeted vocabulary through searching their meanings, comparing the learned meaning(s) of a word with its other meanings and a recently learned word with other words to check its usability and suitability in a given context as well as use of a recently learned word in composing sentence examples. These cognitive involvements with vocabulary were promoted through the mobile microblogging learning which was designed based on the Involvement Load Hypothesis (Laufer & Hulstijn, 2001). As discussed earlier in 4.7.3.2, the proposed motivational-cognitive components of the Involvement Load Hypothesis, 'need', 'search' and 'evaluation', (Laufer & Hulstijn, 2001) were present in the current mobile microblogging task. They were reflected in the learners' perceptions (see 5.2.6) as well as in their online mobile microblogging learning practices (see 5.3.4).

All the targeted words were needed by the learners to complete the mobile microblogging task and to comprehend the reading passages as well as to pass their Reading II course. Though they were not questioned about it, the 'need', which is the motivational dimension of the Involvement Load Hypothesis, was implied in the responses of some learners. For instance, one of the interviewees seemed to believe that the usefulness of the mobile microblogging task was attributed to the fact that the targeted words used during the intervention were in the course textbook. He mentioned:

م ١٨ - مق: هو أفضل في إنه أفادني كثير في المقرر، إنه حتى الكلمات المحددة علينا أغلبها كانت موجودة.

P18_INT: It (approaching vocabulary via Twitter) is better in that it benefited me in the course... most of the words we are required to learn were there (in the mobile microblogging task).

Accordingly, it can be presumed that he was motivated because of learning words he was required to learn by the textbook.

With respect to the component of 'search', which is one of the two cognitive dimensions of the Involvement Load Hypothesis, it is significant that the search performed by the students was not limited to learning the meanings of targeted words but it was extended to expose the usages of the words in composed and authentic examples in the Twittersphere. This is presumed to engage the learners cognitively in two ways. First, making efforts to learn the meaning(s) of a given L2 word or its L1 equivalent (Laufer & Hulstijn, 2001). Second, engaging in semantic elaboration (Barcroft, 2002). In other words, directing the learners' efforts towards evaluating as well as increasing their knowledge with regard to the meaning(s) of a given word. For instance, one of the learners' responses illustrated his searching efforts directed towards learning an unknown word. He explained:

مق - م ٢٢: مثلاً لو المعنى ما وضح لي مثلاً بحثت في القاموس، مثلاً الترجمة، ترجمها لي وما عرفت معناها صح ممكن اشوفها في تويتر واشوف استخدامها.

P22_INT: ... If the meaning (of a given word) was unknown, I would consult the dictionary or its translation... if I could not learn its meaning properly then I would check in Twitter and see its usages.

This finding is consistent with previous research and can be explained by the evidence that including the component of 'search' in the current mobile microblogging task increased the learners' involvement and engagement with their targeted words, which are presumed to aid learning (Hill & Laufer, 2003; Hulstijn & Laufer, 2001).

'Evaluation', which is the second cognitive dimension as well as the third component of the Involvement Load Hypothesis (Laufer & Hulstijn, 2001), was also present in the current mobile microblogging task. The learners' responses demonstrated that they spent some time observing their recently learned words in the posts of other classmates and/or authentic people in the Twittersphere and thus they were cognitively engaged in a number of ways. First, comparing the learned meaning(s) of a word with its other meanings. Second, comparing a recently learned word with other words to check its suitability in a given context. Third, comparing a recently learned word with other words to check its usability in a given context. These were alluded to by some learners. For instance, in his comment below, one of the learners explained that when learning a new word, he used to go through three stages. First, attempting to learn and understand the meaning(s) of a given word as well as its different usages in classmates' and/or authentic people's posts in the Twittersphere. Second, compares the learned meanings and then chooses the one that fits its context. Third, composing an example sentence.

م ٢٤ - مق: أنا بالنسبة لي لي خطوات في كتابة الكلمات، أول شيء أترجم الكلمة أشوف كم معنى لها بعدين أشيك على الكلمات كيف استخدمها الناس في التويتر، فأسير أفهم الكلمة وكيف استخدمت في نفس الجملة وكمان أفهم الجمل نفسها بعد ما أفهمها أبدأ أحط المعنى اللي خلاص أتأكد عندي بعدين أسوي الجملة.

P24_FG: For me, there are certain steps for learning words. I firstly translate the word to figure out how many meanings it has, and then I check how other people use it in Twitter... So I understand the word, how it can be used in a sentence, and I also understand the

sentences (provided by other students). After this, I will understand the word and will start using it in the sense I have got in my mind, and finally I write my sentence.

Learning activities, such as these in the mobile microblogging task reflect the learners' cognitive involvement with their targeted words. It also illustrates how the adoption of the mobile microblogging increased the learners' involvement with vocabulary and thus aided learning. In accordance with current findings, previous studies have demonstrated that the higher the involvement load is, the more effective the learning task will be (Ghorbani & Rahmandoost, 2012; Hill & Laufer, 2003; Hulstijn & Laufer, 2001).

The two cognitive dimensions of the Involvement Load Hypothesis 'search' and 'evaluation' (Laufer & Hulstijn, 2001) were also reflected in the learners' posts in Twitter (see 5.3.4 for more details). The 'search' component was reflected in approximately half of the learners' posts that were concerned with words' meanings including definitions and/or translations. The 'evaluation' component was reflected in approximately a third of the learners' posts that contained their composed example sentences. The remaining posts were concerned with the authentic examples the learners liked and shared with other classmates. These are presumed to reflect both the 'search' and 'evaluation' components concurrently. To be specific, the learners were involved in searching activities directed towards understanding the meaning of given words as well as in comparing the learned meaning(s) of a word with its other meanings and/or a recently learned word with other words to check its suitability and usability in a given context.

Regardless of the type and involvement load of the task, additional factors that appeared to be equally important in promoting the learners' engagement with their vocabulary were identified. First, increased frequency of encounters or exposure to targeted words. Second, increased amount of social interaction. Third, increased attention focused on lexical targeted items. Each of these factors will be elaborated on and discussed further.

The frequency of encounters or exposure to the targeted words which can be as important as the type of the learning task was another factor that increased the learners' engagement (Folse, 2006). A number of the learners pointed out that lack of enough exposure to targeted vocabulary they experienced in their previous course had a negative influence on their vocabulary learning and retention. However, the adoption of Twitter to approach targeted vocabulary increased their frequency of encounters with their targeted words. They also associated the increased frequency of encounters with their vocabulary knowledge development as well as retention. For example, one of the learners stated that he benefited from encountering the targeted vocabulary used in others' posts in terms of learning the meanings as well as remembering them (see 5.2.6.5). This finding coincides with previous research in that repeated encounters with vocabulary are necessary for better vocabulary learning and retention, (Alhumood, 2007; Hulstijn & Laufer,

2001; Nation, 2001; Schmitt, 2010b; Webb, 2008). It confirms as well that lack of sufficient exposure to targeted words is among the difficulties that could hinder vocabulary knowledge development (Brent & Siskind, 2001; Groot, 2000; Lu, 2008; Schmitt, 2008).

While engaging EFL learners socially through interaction is possible during a regular language class, it might not be possible while outside the class without implementing a web 2.0 technology (O'Reilly, 2005). The findings of the current research confirmed that the adoption of the mobile microblogging helped to promote the learners' social engagement as well as increasing the amount of social interaction focused on targeted words. This was accomplished by enabling social interaction to take place outside the classroom instead of it being limited to the class time when the students and their teacher are present. The facilitation of social interaction encouraged the learners to learn collectively through exchanging vocabulary knowledge, seeking and providing scaffolded support aiming to facilitate acquisition. These findings are in agreement with previous research, in that increasing the amount of interaction focused on lexical items increases the learners' engagement and thus leads to better vocabulary learning and retention (Schmitt, 2010a). They also support the assertions of the sociocultural theory in that social interaction plays a major role in cognitive development (Lantolf & Aljaafreh, 1995; Lantolf & Appel, 1994; Lantolf & Thorne, 2007; Mitchell et al., 2013).

In addition to promoting social engagement, Twitter's distinctive feature of exchanging bite-sized posts of 140-characters each appeared to increase the learners' attention and focus on their targeted lexical items. It is almost certain that the learners' focused attention was increased due to two main factors, the shortness of the posts and the need to learn the given lexical items. With regard to the shortness of the posts, it can be presumed, as informed by the learners, that meeting a targeted word in a short post helped to increase the learner's attention. In other words, it was stated that meeting a targeted word in a long text that contains unknown words is more likely to distract rather than facilitate learning that targeted word. This finding is in agreement with previous research which suggested that the shortness of the posts are presumed to force the students to concentrate on their targeted learning materials (Altiner, 2011; Ebner et al., 2010). With respect to the other factor, the need to learn a targeted word that is necessary for the completion of the mobile microblogging task helped to increase the learners' attention. Here, this moderate need reflects the motivational dimension of the Involvement Load Hypothesis (Hulstijn & Laufer, 2001; Laufer & Girsai, 2008; Laufer & Hulstijn, 2001).

Consistent with the literature, these findings demonstrate that the adoption of the mobile microblogging helped to boost the learners' cognitive, behavioural, emotional and social engagement with their targeted words (Chen & Chen, 2012; Franklin & Peng, 2008; Grosbeck & Holotescu, 2008; Junco et al., 2013; Junco et al., 2011; Martin & Ertzberger, 2013; Mollett et

al., 2011; Schroeder et al., 2010; Teevan et al., 2011; Veletsianos, 2012; Veletsianos & Navarrete, 2012). It inspired the learners to take more responsibility for their learning as well as to cognitively and socially involve them in creating accessible vocabulary learning content (Nikolova, 2002). It also helped to bridge the gap by enabling the learners, whose exposure to English was limited to the classroom (Alhumood, 2007), to connect to the world and get more authentic exposure to their targeted vocabulary (Al-Shehri, 2011; Levy & Stockwell, 2006). Additionally, they show evidence supporting the assertions of the Involvement Load Hypothesis (Ghorbani & Rahmandoust, 2012; Hill & Laufer, 2003; Hulstijn & Laufer, 2001; Laufer & Hulstijn, 2001) as well as the criticality of engagement for vocabulary acquisition (Folse, 2006; Joe, 2010; Laufer & Girsai, 2008; Rott, 1999; Schmitt, 2010a).

6.4 The impact of the adoption of the mobile microblogging on EFL learners' learning development

The discussion in 6.2 demonstrated how the adoption of the mobile microblogging and its various features enhanced the learning process. This was followed by a discussion of how the adopted mobile microblogging helped to increase the learners' involvement and engagement with their targeted vocabulary (see 6.3). This section discusses the impact of adopting the mobile microblogging to facilitate, involve and engage the learners with vocabulary on their learning outcomes. It looks at the findings related to the third research question, which is concerned with the impact of the mobile microblogging adoption on the learners' outcomes. While the impact on the learners' outcomes, such as increasing vocabulary knowledge, has been referred to in the previous sections of this chapter, this section will provide a discussion that is more detailed and will also shed light on additional new aspects.

The effect of engagement on the learning development and outcomes was positively perceived by the learners. In particular, it was reported that learning via the mobile microblogging task enhanced vocabulary gains and knowledge (see 5.2.7). This enhancement could mainly be attributed to the promoted engagement discussed earlier in 6.3, which includes the involvement load of the mobile microblogging task, increased frequency of encounters, increased amount of interaction and attention to lexical items. However, a number of other factors appeared to reflect the positive impact of the promoted engagement on the learning development and outcomes, namely increased in-class participation and perceived better comprehension as well as the results of the VKS measurements and correlations.

With respect to in-class participation, the participants and their teacher reported that the amount of participation increased markedly (see 5.2.7.2). There are two possible explanations for this

result. First, it is conceivable that the increased amount of participation reflected the participants' gained knowledge. In other words, the participants used their gained knowledge to participate in the class. Second, the gained knowledge appeared to affect the learners' self-confidence positively and thus encouraged them to participate more in the class. To elaborate, self-confidence is presumed to eliminate a number of negative factors that could increase anxiety and thus hinder active participation in class, such as, fears of losing face, and negative feedback and/or judgments (Pichette, 2009). Consequently, the increased amount of participation is viewed as an indicator that reflects the learners' knowledge gains, which are believed to result from participating in the mobile microblogging task. These are informed by the responses of a number of the learners. For instance, FG1 stated:

م ١: أكيد أنه أثر و فرق لأنني لما أشارك في المحاضرة حكون أعرف الكلمات حققت الدرس قبل لا اجي فلما أكون مشارك أكون متأكد أنه الكلمة صح و مشاركتي صح، فلما حشارك أشارك أكثر و أكثر.

P1_FG: Of course, there is a big difference because when I attend the class I would be already familiar with the (targeted) words and would participate confidently... my participation would increase...

Accordingly, engaging the participants with their targeted words via the mobile microblogging tool and task aided acquisition, would lead to increased in-class participation. This finding confirms those of previous research findings in that boosting engagement and involvement affect the depth of learning which afterwards increase the amount of participation (Ebner et al., 2010; Kop, 2011).

Likewise, the participants claimed that the vocabulary knowledge they gained during the mobile microblogging intervention improved their comprehension of the reading passages in their course book (see 5.2.7.3). This can possibly be explained by the fact that, the adoption of the mobile microblogging tool and task increased the participants' engagement and consequently affected their vocabulary gains and knowledge development. Consistent with previous research, this finding endorses the view that vocabulary knowledge plays a key role in comprehension and that knowing the words included in a reading passage contributes to comprehending the passage (Nagy, 1988; Perfetti & Stafura, 2014).

Additionally, the findings of the pre-post VKS statistical comparisons showed that the VKS-Twitter gains were noticeably higher than the gains of the VKS-traditional by 22% (see 5.3.3.2). This result demonstrates the positive impact of engagement with vocabulary on the learners' gains and knowledge development. It also shows a difference in the development of the words that were engaged with and the ones that were not. In other words, the words that were engaged with were learned better than the ones that were not. This result was supported by the strong positive relationship that was found between the learners' engagement reflected by their posts during the research intervention (Twitter activity measurement variable) and their vocabulary

gains in the VKS-Twitter (vocabulary knowledge development variable). These findings, therefore, show that increased engagement, reflected by the Twitter activity measurement variable, was associated with increased gains, reflected by the vocabulary knowledge development variable.

Moreover, in accordance with the Involvement Load Hypothesis (Laufer & Hulstijn, 2001), the findings showed a strong positive relationship between the vocabulary knowledge development variable and each of the variables – posted meanings and composed example sentences – which reflect the two cognitive dimensions of the hypothesis, ‘search’ and ‘evaluation’ (see 5.3.4 and 6.3 for more details). In addition, a moderate positive relationship was found between the learners’ vocabulary knowledge development and liked examples variables. These relationships may possibly be explained by the claim that observing the targeted words in others’ posts seemed to affect vocabulary gains and knowledge positively. However, posting the learned meanings and/or composed example sentences appeared to increase the learners’ involvement and thus the outcomes. In other words, the words that were engaged with through reading, posting their meanings and/or composed example sentences appeared to be better learned than those that were not.

These findings are in line with previous studies endorsing the view that more and better engagement affects the learning process and acquisition (Fraik & Lockhart, 1972; Hill & Laufer, 2003; Hulstijn & Laufer, 2001; Jing & Jianbin, 2009; Laufer & Hulstijn, 2001; Schmitt, 2008; Schmitt, 2010b). They are also in agreement with previous research in that the adoption of the mobile microblogging impacts on the learners’ engagement and thus their learning development (Chen & Chen, 2012; Junco et al., 2013; Junco et al., 2011). Additionally, they complement the other qualitative findings of this research. To elaborate, the results of the vocabulary measurements, correlations and the learners’ perceptions about the impact of the adopted mobile microblogging tool and task on their vocabulary gains and development showed that the words that were engaged with via the use of the mobile microblogging reflected higher gains in comparison to those that were not.

6.5 A pedagogical framework to facilitate and promote engagement with vocabulary learning

This section brings together a number of stages that were discussed separately in the methodology and current chapters and presents them organised and structured in a framework (Figure 12). The framework is structured in four stages. The first two stages are concerned with preparing and establishing the implementation and use of the mobile microblogging tool as well

as the design of the online vocabulary learning task (see 4.7.3). The last two stages are concerned with the pedagogical affordances offered by the adopted tool and task (see 6.2.2) and the impact on learners' engagement (see, 6.3) and knowledge development and gains (see 6.4). The development of the framework, its objectives and stages will next be discussed in more detail.

The development of this framework is based on the broader principle that "anything that leads to more and better engagement should improve vocabulary learning" (Schmitt, 2008). It also assumes that social interaction, which incorporates different social learning activities, is central to L2 cognitive development (Li, 2011; Mills, 2011) and that integrating technology tools in educationally relevant ways can offer means to facilitate social interaction and learning (Junco et al., 2013). Moreover, it supports the premise that "tasks with a higher involvement load will be more effective for vocabulary retention than tasks with a lower involvement load" (Hulstijn & Laufer, 2001).

The objective of the pedagogical framework is to facilitate learning targeted vocabulary and promote learners' engagement and involvement with their targeted vocabulary through the integration of a social networking tool that has the advantages of facilitating social interaction and inspiring active participation in online authentic contexts. Facilitating vocabulary learning and promoting learners' engagement and involvement with their targeted vocabulary is presumed to aid acquisition and retention (Hulstijn & Laufer, 2001; Schmitt, 2010b). It is worth mentioning that the focus of the framework is not on the integrated technology but on how it could facilitate the social aspects of learning.

The first stage, preparation, is concerned with two issues: (1) selecting an appropriate tool and (2) designing a learning task. Regarding tool selection, Twitter as a mobile microblogging tool was selected and implemented in this research. As indicated by the findings of the current and previous research (Junco et al., 2013; Veletsianos & Navarrete, 2012; Welch & Bonnan-White, 2012), using a social networking tool can offer a shared learning space to EFL learners in which they could approach their vocabulary learning, involve and engage with their targeted words and work collectively to achieve their learning goals. Also, it helps in pushing the learners to become more active and responsible for their learning (see 0 and 5.2.6 for more details about the pedagogical affordances of the selected tool). Moreover, to ensure effective implementation, the chosen tool was evaluated in terms of its fitness with learners' digital use or behaviours and vocabulary learning as the aspect of L2 language to be focused on. In other words, the acceptance of the tool, its wide spread and frequency of use by the learners as well as the appropriateness of using the chosen tool for vocabulary learning and related activities were considered.

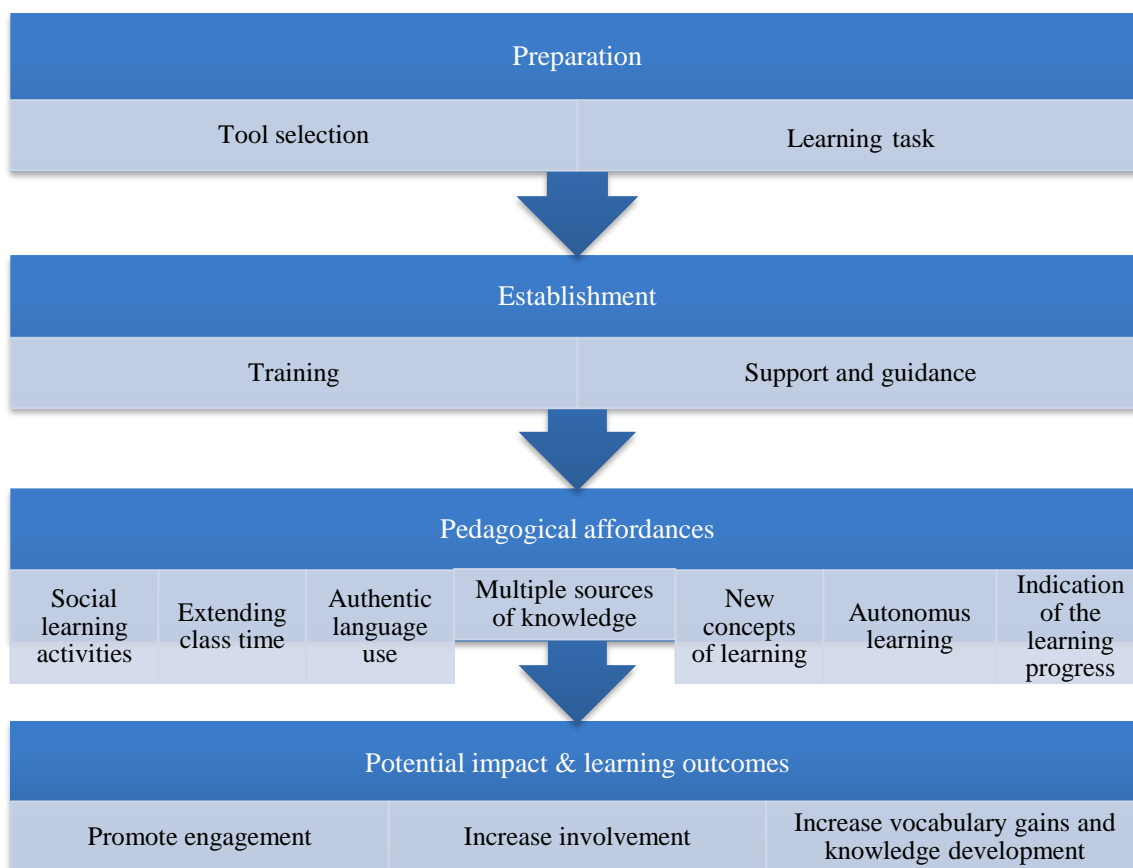


Figure 12: A pedagogical framework for using mobile microblogging to facilitate & promote engagement with vocabulary learning

Following the selection of the tool, a learning task was developed and combined with the chosen tool (see 4.7.3.2 for more details). Two main factors informed the development of the task. First, the fact that integrating the chosen tool into learners' course in educationally relevant ways will make the implementation more effective, as suggested by Junco et al. (2013). Second, as proposed in previous theoretical (Laufer & Hulstijn, 2001) and empirical research (Hill & Laufer, 2003; Hulstijn & Laufer, 2001), including the motivational-cognitive components of the Involvement Load Hypothesis, 'need', 'search' and 'evaluation' in a task make it more effective for vocabulary retention.

Then begins the second stage during which the learners were trained on how to use the adopted tool efficiently (see 4.7.3.1 for more details). They also practised using the tool freely for one week. This helped in familiarising them with the tool prior to using it for learning purposes. It allowed them as well to seek help and support related to any issue or problem they encountered. As indicated in the current and previous research (Alebaikan, 2010; Liu, 2010), providing the training and the scaffolded support prior to the actual use of the adopted tool and task helped the participants to focus on their learning.

After that, in the third stage, the learners began using the adopted tool and task to approach their vocabulary learning. In more details, the pedagogical features of the adopted tool and task encouraged the learners to practise their recently learned words and engage in social learning activities, such as providing and receiving scaffolded help. It also provided indications of the learning progress, extended the learners' classroom time, enabled authentic usage of English, and introduced new concepts of learning (see 6.2 for more details about the pedagogical affordances of the adopted tool).

As a result, the adoption of the mobile microblogging tool and task helped in promoting learners' engagement and involvement with their targeted vocabulary (see 6.3 for more details) and consequently impacted on their gains and knowledge development (see 6.4 for more details). More specifically, the use of the adopted tool and task engaged the learners with their targeted words in ways impossible in a traditional classroom. These include an increase in the amount of interaction focused on targeted words, the frequency of encounters and the amount of time spent on the targeted vocabulary. Also, it involved the learners in searching and evaluation activities related to their targeted vocabulary. Finally, it helped the learners to learn how to use and employ social tools for their learning in general.

6.6 Research questions

6.6.1 RQ1: How do the learners perceive the adoption of mobile microblogging to approach vocabulary learning?

6.6.1.1 What are the learners' attitudes towards vocabulary learning?

The research participants appeared to have positive attitudes towards vocabulary learning that slightly improved after the use of the mobile microblogging tool and task. More specifically, most of the participants reflected that vocabulary is an important part of language learning. However, what is surprising is that almost half of the respondents (44%) considered learning vocabulary a bit challenging. This disagrees with Altiner (2011) who found that most of the participants viewed learning vocabulary as difficult.

6.6.1.2 What are the learners' attitudes towards utilising Twitter as a mobile microblogging tool to approach vocabulary learning?

The learners' attitudes have positively changed after the use of the mobile microblogging tool and task. As expected, these findings broadly support the work of previous studies concerned with learners' attitudes towards technology-enhanced learning (Alzahrani, 2013; Başıoğlu & Akdemir, 2010; Hsu, 2013; Yu et al., 2010). Particularly, quantitative and qualitative data

showed that more than two-thirds of the participants found learning via the adopted tool more appealing. They also perceived the adopted tool as useful and easy to use as well as this way of learning as convenient, flexible and comfortable. Moreover, they highlighted the effect it had on their knowledge development resulting from facilitating learning words' meanings, as well as enabling them to encounter their recently learned words in authentic examples.

6.6.1.3 How does the mobile microblogging help the learners to approach vocabulary learning?

In view of all that has been mentioned in 6.2.2, the adoption of the mobile microblogging tool helped the learners to approach vocabulary learning in a number of ways. First, it can inspire EFL learners to dedicate more of their time to vocabulary learning (Hsu, 2013). Second, it can enthuse EFL learners to invest previously unproductive time in vocabulary learning at locations and times of their choice (Cui & Bull, 2005; Hlodan, 2010; Llic, 2013; Lu, 2008; Palalas, 2012; Sharples, 2000; Sharples et al., 2007; Stockwell, 2007). Third, it can extend the time spent on targeted lexical items and thus aid learning and retention (Schmitt, 2010a). Fourth, it can extend face-to-face class activities and enable them to take place while outside the classroom (Al-Shehri, 2011; Carter, 2011; Junco et al., 2013; Junco et al., 2011; Kassens-Noor, 2012; O'Reilly, 2005; Schroeder et al., 2010). Fifth, it facilitates searching targeted-vocabulary-related information which is one of the three components of the Involvement Load Hypothesis that are presumed to aid learning (Hill & Laufer, 2003; Laufer & Hulstijn, 2001). Sixth, it can ease finding targeted-vocabulary-related information posted by other classmates (Abdous et al., 2009; Alzahrani, 2013; Cox, 2012; Oblinger et al., 2005; Rahamat et al., 2011; Salvia, 2000; Song & Fox, 2008). Seventh, it can increase exposure to targeted words as well as to authentic usage of recently learned words and thus aid the learning process and retention (Joe, 2010; Schmitt, 2010a). Eighth, it can group learners' posts under one hashtag name as well as display them in a chronological order. Ninth, it allows EFL learners to access each other's posts and thus learn together as well as from each other. Tenth, the 140-character posts can increase the attention of EFL learners as well as their involvement with targeted lexical items and thus support the process of vocabulary learning and retention (Hill & Laufer, 2003; Hulstijn & Laufer, 2001; Laufer & Hulstijn, 2001; Schmitt, 2010b). Eleventh, it can increase the involvement of EFL learners with their targeted vocabulary by producing and sharing example sentences (Hill & Laufer, 2003; Hulstijn & Laufer, 2001; Laufer & Hulstijn, 2001). Twelfth, it can establish a relaxed learning atmosphere with less anxiety and stress. Thirteenth, it can foster a more autonomous and learner-centred learning environment. Fourteenth, it can facilitate social interaction and thus establish a supportive learning environment in which EFL learners can provide and obtain social support (Carter, 2011; Dhir et al., 2013; O'Reilly, 2005; Parameswaran & Whinston, 2007).

6.6.1.4 What challenges learners encountered?

Although the adoption of the mobile microblogging tool and its several features offered a great deal to EFL students (see 6.2.2), it presented a number of challenges (see 6.2.3). A few learners reported concerns and challenges they confronted during their participation in the research intervention. Lack of internet connection in the participants' mobile devices hindered using the tool and task to approach their vocabulary learning. This can be attributed to some of those participants being unable to afford paying for an internet connection. Additionally, they also lacked a reliable Wi-Fi connection on campus. Issues related to account and learning information protection were also concerned. In other words, there was some fear of losing Twitter accounts and/or posts that contained targeted-vocabulary-related information. However, as informed by the learners, these concerns were mainly associated with learning issues, not with online safety issues. More precisely, the learners spent time and effort to search, learn, produce original sentences and share existing knowledge with other classmates on Twitter and thus they seemed to be worried about the consequences of a probable loss of their learning efforts and outcomes and not from their accounts and/or personal information being hacked. Usability concerns was another issue that seemed to disturb few of the participants. In detail, those who have never been involved in technology-enhanced learning as well as those who experienced a hard time using the current adopted tool appeared to feel somewhat frustrated. However, their familiarity with using the adopted tool seemed to have grown as a result of receiving social support from other more experienced classmates. Finally, finding time during which the participants can use the mobile microblogging tool and task represented another layer of challenge that faced a few participants. From the participants' perspective, three reasons could explain why affording time was difficult. First, personal/family commitments that sometimes require time. Second, work commitments as some students might work while studying. Third, academic learning commitments, such as preparing for exams and assignments.

6.6.2 RQ2: How does the adoption of the mobile microblogging increase EFL learners' engagement with vocabulary?

The findings related to the learners' prior experience of approaching vocabulary learning revealed that lack of sufficient involvement and engagement with targeted words hindered vocabulary knowledge development. On the contrary, the findings related to the learners' current experience indicate that the adoption of the mobile microblogging tool and task offered them with opportunities to approach their vocabulary learning (see 6.2 for more details) and thus boosted the learners' emotional, behavioural, social and cognitive engagement with their targeted words. To elaborate, the presence of the proposed motivational-cognitive components of the Involvement Load Hypothesis, 'need', 'search' and 'evaluation' in the current mobile

microblogging task increased the involvement load of the task which are presumed to aid learning (Ghorbani & Rahmandoust, 2012; Hill & Laufer, 2003; Hulstijn & Laufer, 2001). This coincides with the assertions of the Involvement Load Hypothesis (Laufer & Hulstijn, 2001) as well as with previous studies which found that the higher the involvement load is the more effective the learning task will be (Ghorbani & Rahmandoust, 2012; Hill & Laufer, 2003; Hulstijn & Laufer, 2001). However, the Involvement Load Hypothesis does not consider a range of additional factors that can influence vocabulary learning (Schmitt, 2010b).

The findings of the current research are in line with a number of previous studies in that implementing educational technology can afford ways to engage EFL learners with their targeted materials (Chen & Chen, 2012; Franklin & Peng, 2008; Greenhow et al., 2009; Grosseck & Holotescu, 2008; Honeycutt & Herring, 2009; Junco et al., 2013; Junco et al., 2011; Martin & Ertzberger, 2013; Mollett et al., 2011; Schroeder et al., 2010; Teevan et al., 2011; Veletsianos, 2012). As discussed earlier in 6.2.2, the adoption of a powerful educational technology inspired the learners to take more responsibility for their learning as well as to be involved in creating accessible vocabulary learning content (Nikolova, 2002). It also helped to bridge the gap by allowing the learners, whose exposure to English was limited to the classroom, to connect to the world and get more authentic exposure to their targeted vocabulary (Al-Shehri, 2011; Levy & Stockwell, 2006). The frequency of encounters or exposure to the targeted words, which can be as important as the type of the learning task, were another factor that increased the learners' engagement (Folse, 2006). The facilitation of social interaction increased the amount of interaction focused on lexical items (O'Reilly, 2005) and thus the learners' engagement (Carter, 2011; Dhir et al., 2013). Finally, The shortness of the posts assisted in increasing the learners' attention and concentration on the targeted lexical items which as a result boosted their engagement (Altiner, 2011; Ebner et al., 2010). Promoting learners' engagement with vocabulary is a critical factor for vocabulary learning and acquisition (Schmitt, 2010a; Schmitt, 2010b).

6.6.3 RQ3: How does the adoption of mobile microblogging impact the learners' knowledge gains and development?

6.6.3.1 How do the learners perceive the impact of the adopted tool on their vocabulary gains and knowledge development?

The effect of engagement on the learning development and outcomes was positively perceived by the learners. In particular, it was reported that learning via the mobile microblogging task enhanced vocabulary gains and knowledge (see 5.2.7). This enhancement could mainly be attributed to the promoted engagement discussed earlier in 6.3. A number of other factors

appeared to reflect the positive impact of the promoted engagement on the learning development and outcomes, namely increased in-class participation and perceived improved comprehension.

With respect to the increased in-class participation, the learners and their teacher reported that the amount of their as well as other classmates' in-class participation increased markedly. This increased amount of participation is viewed as an indicator that reflects the learners' knowledge gains that are believed to have resulted from participating in the mobile microblogging task. Not only their in-class participation, but their comprehension for the reading passages they needed to learn was also improved. This improved comprehension was another factor that reflected the impact of engagement on vocabulary knowledge gains and development.

6.6.3.2 Are the words that are engaged with learned better?

The findings of the pre-post VKS statistical comparisons showed that the VKS-Twitter gains were noticeably higher than the gains of the VKS-traditional by 22% (see 5.3.3.2). This result demonstrates the positive impact of engagement with vocabulary on the learners' gains and knowledge development. It also shows the difference in the development of the words that were engaged with and the ones that were not. In other words, the words that were engaged with were learned better than the ones that were not. This result was supported by the strong positive relationship that was found between the learners' engagement reflected by their posts during the research intervention (Twitter activity measurement variable) and their vocabulary gains in the VKS-Twitter (vocabulary knowledge development variable) (see 5.3.4). These findings show that increased engagement, reflected by the Twitter activity index variable, was associated with increased gains, reflected by the vocabulary knowledge development variable.

6.6.3.3 How does the involvement load of the task affect vocabulary development?

In accordance with the Involvement Load Hypothesis (Laufer & Hulstijn, 2001), the findings showed a strong positive relationship between the vocabulary knowledge development variable and each of the variables posted meanings and composed example sentences which reflect the two cognitive dimensions of the hypothesis, 'search' and 'evaluation' (see 6.3 for more details). In addition, a moderate positive relationship was found between the learners' vocabulary knowledge development and liked examples variables. These relationships may possibly be explained by claiming that observing the targeted words in others' posts seemed to affect vocabulary gains and knowledge positively. However, posting the learned meanings and/or composed example sentences appeared to increase the learners' involvement and thus the outcomes. To put this differently, the words that were engaged with through reading, posting

their meanings and/or composed example sentences appeared to be better learned than those that were not.

6.7 Summary

This chapter discussed the possible interpretations of the findings presented in Chapter 5. It also linked them with previous research as well as explicitly answered the research questions. The discussion covered three sequenced parts, starting with investigating the participants' perceptions regarding the adopted tool and its usefulness as the basic part. It then looked at the impact of this adoption on the learners' involvement and engagement and ended with discussing the effect of the promoted engagement on the vocabulary gains and knowledge development. The findings of the research were in line with those of previous research, apart from a few findings. Overall, the findings confirmed that the adoption of the mobile microblogging tool and task boosted the participants' engagement and consequently impacted their gains and learning experience.

Chapter 7: Conclusion

7.1 Introduction

This chapter begins by providing a brief overview of the current research and its main findings. Then, it moves on to present the implications of (a) integrating Twitter as a mobile microblogging tool into language classrooms to engage EFL learners with their targeted vocabulary and (b) the impact of such integration on knowledge gains and development. These will be followed by discussing the limitations and challenges of the current research as well as some suggestions for future research.

7.2 Summary of the findings

This study set out to assess the practicability of promoting EFL learners' engagement with their L2 targeted vocabulary via the use of Twitter as a mobile microblogging tool combined with a designed vocabulary learning task and the impact of such engagement on targeted vocabulary gains and knowledge development. A combined qualitative and quantitative methodological approach was used to answer the following research questions.

1. How do EFL learners perceive the adoption of mobile microblogging to approach vocabulary learning?
 - a. What are their attitudes towards vocabulary learning before and after the research intervention?
 - b. What are their attitudes towards utilising a mobile microblogging tool to approach vocabulary learning before and after the research intervention?
 - c. How does mobile microblogging help EFL learners to approach vocabulary learning?
 - d. What challenges might be encountered?
2. How does the adoption of mobile microblogging increase EFL learners' engagement with vocabulary?
3. How does the adoption of mobile microblogging impact EFL learners' knowledge gains and development?
 - a. How do they perceive the impact of the adopted tool on their vocabulary gain and learning development?
 - b. Are the words that are engaged with learned better?
 - c. How does the involvement load of the task affect vocabulary development?

Overall, the results showed that the adoption of the mobile microblogging tool and task offered a great deal to the students, facilitated approaching vocabulary learning, and impacted on their engagement and their vocabulary gains and knowledge development. The attitudes of the learners towards vocabulary learning and the adopted mobile microblogging tool were generally positive. Vocabulary is viewed by the participants of the present research as an essential component of their L2 that they need to develop. Many of them expressed their concern about the difficulty of dealing with new words. However, the integration of the mobile microblogging tool into their language classroom appeared to lessen their struggle and enhance their vocabulary learning. Generally, the learners perceived the new integrated tool as easy to use and access as well as this way of learning as beneficial, convenient, flexible and comfortable.

The research confirmed that the implementation of Twitter as a mobile microblogging tool to deal with L2 targeted lexical items is valuable in a number of ways. First, it established and prompted connectedness between the learners, their teacher and the wider world. Second, it enabled the learners to approach their targeted words anytime, anywhere through their handheld mobile devices and Twitter. Third, it increased the amount of time spent on targeted lexical items by dedicating part of previously wasted time for learning. Fourth, it made it possible for usual face-to-face class activities to take place outside the classroom. Fifth, it allowed the learner to instantly search targeted-vocabulary-related information as well as have multiple exposures to authentic usage of recently learned words. Sixth, it facilitated social interaction, group learning and thus encouraged more participation and established a supportive learning environment. Seventh, it increased attention to, involvement and engagement with vocabulary. Eighth, it enabled vocabulary use and practice. Ninth, it allowed the learners to enjoy learning in a relaxed learning atmosphere with less anxiety and stress.

The current research has also shown that the presence of the motivational-cognitive components of the Involvement Load Hypothesis, 'need', 'search' and 'evaluation' in the designed mobile microblogging task increased the involvement load of the task. It confirms that greater involvement and engagement with vocabulary are linked with greater vocabulary gains and development. In other words, the words that were involved with cognitively appeared to affect the vocabulary gains and development more than the words that were not. Equally, the adoption of the mobile microblogging tool boosted the learners' emotional, behavioural, social and cognitive engagement with their targeted words. A number of other obvious factors that helped to engage the learners emerged from this study. These include increasing the frequency of encounters or exposures to the targeted items and attention paid to them. Accordingly, the impact of engaging the learners with their targeted words via the mobile microblogging tool and task was reflected in their outcomes. These include the learners' in-class increased participation, perceived improved comprehensions, vocabulary gains, and knowledge development. However,

the research has also identified a number of challenges. These include lack of internet connection, issues related to account and learning information protection, usability concerns and affording time (see 6.2.3 for more details).

The integration of the mobile microblogging tool and task aimed to improve the existing vocabulary learning practices in EFL contexts in which learners have limited (a) class time, (b) exposure to the language and/or (c) chance to practice what they learn beyond the walls of their class. Accordingly, the research has gone some way towards enhancing our understanding of how the adoption of the mobile microblogging tool and task can boost EFL learners' engagement and thus impact on their vocabulary gains and knowledge development. The present research provides useful insights informed by the learners describing how the adopted tool enhanced their existing vocabulary learning practices in addition to reporting their attitudes and perceptions regarding the adopted new way of learning. The present research confirms previous findings and contributes additional evidence that demonstrates how learners' connectedness is a critical factor in facilitating learning and supporting cognitive development.

7.3 Implications and recommendations

It can be argued that the learners of the current era are characterised as the Net Generation (Jones et al., 2010). Most of them own computers and/or connected smart/mobile devices. Their use and dependence on technology cannot be disregarded and such widespread availability of these connected devices should be invested in to facilitate learning.

The findings of the current research have significant implications for the understanding of how the adoption of the mobile microblogging tool and task can help in boosting EFL learners' engagement with targeted vocabulary and thus impacts on their knowledge gains and development. As presented and discussed in chapters 5 and 6, the effectiveness of adopting the mobile microblogging tool, which is an example of web 2.0 technology, and task, which is a designed learning task, on the learners' engagement as well as their knowledge gains and development, cannot be ignored. Taken together, the findings of this as well as previous research could optimistically encourage more use of web 2.0 technology tools to consolidate language learning in general and/or a specific language aspect, such as vocabulary in particular, in higher education EFL programmes and courses.

It can be implicated that the adoption of Twitter as a mobile microblogging tool enables EFL learners to engage with their targeted aspects of their L2 language in a number of ways. First, it allows them to interact with one another, with their teacher/s and/or with English speakers they might meet on the social networking platform. While most of the web 2.0 technology tools can

facilitate interaction, Twitter has glorified the concept of reciprocity and encouraged more interaction between its users (Carter, 2011; Ebner et al., 2010). Accordingly, the presence of such a distinctive feature in the tool can help to increase the amount of interaction as well as ease the flow of conversations. These contribute to the learners' learning development by involving them in producing and encountering knowledge related to their targeted items in ways that cannot be afforded by their usual or traditional classroom learning practices.

Second, the facilitation of social interaction between the learners, including providing and receiving scaffolded support, incorporates cognitive processing that leads to knowledge gains and development (Li, 2011; Mills, 2011; Schmitt, 2010a). Third, the formation of new concepts for learning. That is, EFL learners can go beyond their usual circle of formal learning to learn from the outside world. While learning with other classmates is useful, the adoption of the tool can help in learning the language through observing English speakers' authentic conversations in the Twittersphere. This was distinctively referred to by many learners in the current research (see 5.2.5.8 and 6.2.2). In other words, the learners can use Twitter as a mobile microblogging tool to learn authentically from language naturally produced by real people. Fourth, it offers EFL learners a flexible way of learning. The ability to use a connected device to learn at their own convenience, anytime, anywhere and as desired that can increase EFL learners' engagement and thus impact their knowledge gains and development. Fifth, it affords ways to engage learners with their targeted vocabulary that might not be feasible to attain in traditional face-to-face classes (see 5.2.6 and 6.3), such as exposure to authentic usage of lexical items (see 5.2.5.8) and extending the amount of time spent on targeted lexical items individually and with other classmates beyond the walls of the classroom (see 5.2.5.7). Sixth, it can effectively encourage the learners to be active during their online participation as well as when they attend their traditional face-to-face classes (see 5.2.7.2). Seventh, it can improve the learners' understanding of the teachers' explanations and reading comprehension tasks (see 5.2.7.3).

However, it is necessary for language teachers to understand how the integration of educational technology will impact their students' learning practices, promote their engagement and increase their knowledge gains. That is, successful implementation of any educational technology requires teachers not only to accept it but to show their online presence as facilitators rather than being sources of knowledge (Junco et al., 2013). Careful selection of the educational tool to adopt in terms of its fitness with the targeted language aspects focused on is also necessary. While Twitter is found to be useful for vocabulary learning, it might not be as useful for learning writing. Equally, the learning tasks to be completed online have to be sensibly designed, so what learners learn online complement what they learn in face-to-face classes. Without well-designed learning tasks, the adopted tool can be useless.

Institutions and tertiary and higher education decision-makers play a key role in successful implementation of educational technology. Without their agreement, encouragement and support, the integration of useful technology may not be effective. It is, furthermore, suggested that they fund projects that facilitate the integration of useful technology into language education. This includes providing required equipment to implement and manage online teaching and learning, such as reliable Wi-Fi networks. Providing sufficient training is equally essential for technology implementation to be successful.

7.4 Limitations and challenges

The areas of mobile learning and integrating web 2.0 technology tools are quite broad areas that can cover a number of issues, including different applications, tools, contexts and concepts. Accordingly, it was necessary to narrow down the scope of the current research in order to carry it out effectively. This caused a number of limitations that need to be acknowledged. These limitations are associated with the focus of the research on one tool, one aspect of language learning, the number of participants and issues with the generalisability of the findings.

The present research focused on Twitter, which was chosen as an example of mobile microblogging tools, rather than focusing on web 2.0 technology broadly. While web 2.0 technology tools generally have similar features, it is necessary to acknowledge that Twitter has a distinctive feature of restricting its users' posts to 140-characters (Carter, 2011). Consequently, caution has to be applied as focusing on one tool might provide limited data as web 2.0 technology should be seen as a more general resource rather than a specific set of things to do. Relatedly, the presence of Twitter's distinctive feature may lead to particular findings that might not be reached when implementing other tools.

Additionally, the research focused on approaching vocabulary learning, which is an important aspect of language acquisition. Having said so, it is also significant to point out that blindly adopting the current tool might not be appropriate in the context of teaching and/or learning other aspects of the language. For instance, teaching and learning writing requires more space for learners to write freely, and thus the 140-character restriction featured on Twitter might make it inappropriate. Further, the current research examined the effect of promoting the learners' engagement on their vocabulary knowledge gains and development. This means to say that it does not look at the direct effect of adopting Twitter on the learners' vocabulary knowledge gains and development.

Moreover, the current research suffered from limited sample size as it used a convenient sample of 39 first year English language students. Although these students are presumed to represent a

wider population, it is wise for such an issue to be considered as the current findings may be less extensive. Finally, issues related to the generalisability of the findings need to be deliberated. While it is assumed that EFL learners and contexts are relatively similar, the adoption of Twitter as a learning tool might/might not be generalisable to a broader range of contexts and language learners. This means to say, the large uptake of mobile technology and relatively the popularity of Twitter in the context of the current research may not be as such in all other EFL contexts. More specifically, mobile technology and Twitter might/might not be widespread, accessible or preferred in all EFL contexts and thus its acceptance and willingness by the involved participants may vary. However, the aspects and concepts of applying mobile microblogging, such as connectedness and social learning are presumed to be much more broadly applicable and generalisable to EFL contexts and learners. More explicitly, they may guide the application of web 2.0 technology tools in different EFL contexts.

Furthermore, it was challenging to translate the instruments from English to Arabic and then the obtained responses from Arabic to English. The instruments were translated to ensure that the learners can understand the meanings of the given questions. The obtained responses were then translated to be included in the current research. The translation required effort, time and multiple revisions to ensure that the translated texts convey the same message in both languages. The translated versions of the instruments were given to four people, including two language learners and two Ph.D. students majoring in applied linguistics, to review and highlight any problematic issues, such as typos and grammatical mistakes, clarity of the items and clear presentation. Similarly, the translated responses were provided to two Ph.D. students to review and confirm the adequacy of the translation in terms of conveying the same message in both languages.

7.5 Suggestions for future research

It would be useful to gain a broader idea if future research considers implementing other social networking tools. This can help in exploring how connectedness among EFL learners and their teachers, as well as with the broader world, can be facilitated through different social networking tools. In future investigations, it might be possible to measure the direct effect of implementing a mobile microblogging tool on EFL learners' vocabulary learning and acquisition. It is also suggested that future research considers including bigger numbers of learners. This might provide additional findings that may shed light on further advantages and benefits. Similarly, targeting EFL learners in different levels of study as well as different language abilities might add to the existing knowledge. While Twitter was optional in the current study, future studies might consider including Twitter as a compulsory part of the

course. Considering additional measurements that can record or track the online usage and practices of the learners during their online participation may provide enriched data that might contribute to the understanding of how social tools can help learners to engage and learn. For example, measuring the amount of time learners spend on doing the online task may provide information on the relationship between the use of the tool, engagement, and learning gains. Finally, it might be useful to explore the views of different kinds of participants, such as teachers and policy-makers. This can add further understanding to the potential and benefits of implementing educational social technology into language classrooms.

List of References

- Aamri, A. & Suleiman, K. (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), pp. 143-152.
- Abdan, A. (1991) An Exploratory Study of Teaching English in the Saudi Elementary Public Schools. *System*, 19 (3), pp. 253-266.
- Abdellah, A. (2013) Training Saudi English Majors in Extensive Reading to Develop Their Standard-Based Reading Skills. *Journal of King Saud University - Languages and Translation*, 25 (1), pp. 13-20.
- Abdous, M., Camarena, M. & Facer, B. (2009) MALL Technology: Use of Academic Podcasting in the Foreign Language Classroom. *ReCALL*, 21 (1) February, p. 76.
- Adolphs, S. (2005) 'I Don't Think I Should Learn All This': A Longitudinal View of Attitudes towards 'native Speaker' English. In: Gnutzmann, C. & Intemann, F. ed., *The globalisation of English and the English language classroom*. Gunter Narr Verlag Tübingen, pp. 118-131.
- Adolphs, S. & Schmitt, N. (2003) Lexical Coverage of Spoken Discourse. *Applied Linguistics*, 24 (4), pp. 425-438.
- Akbari, E., Naderi, A., Simons, R. & Pilot, A. (2016) Student Engagement and Foreign Language Learning through Online Social Networks. *Asian-Pacific Journal of Second and Foreign Language Education*, 1 (4), pp. 1-22.
- Akbarian, I. (2010) The Relationship between Vocabulary Size and Depth for ESP/EAP Learners. *System*, 38 (3), pp. 391-401.
- Akin, A. & Seferoğlu, G. (2004) Improving Learners' Vocabulary through Strategy Training and Recycling the Target Words. *Hacettepe University Journal of Education*, 27, pp. 1-10.
- Al-Bogami, A. (1995) *Teaching English Vocabulary to EFL Male Students at Intermediate and Secondary Public Schools in Riyadh*. MA thesis, King Saud University.

- Al-Fahad, F. (2009) Students' Atitudes and Perciptions towards the Effectiveness of Mobile Learning in King Saud University, Saudi Arabia. *The Turkish Online Journal of Educational Technology*, 8 (2), pp. 111-119.
- Al-Homoud, F. (2003) *The Relationship between the Vocabulary Size of Saudi EFL University Students and Their Ability to Fill in Cloze Reading Passages*. MA thesis, University of Essex.
- Al-Jarf, R. (2005) Teaching Grammar to EFL College Students Online. *Asian EFL journal*, 7 (4).
- Al-Jarf, R. (2007) Teaching Vocabulary to EFL College Students Online. *CALL-EJ Online*, 8 (2), pp. 1-16.
- Al-Mansour, N. & Al-Shorman, R. (2012) The Effect of Computer-Assisted Instruction on Saudi University Students' Learning of English. *Journal of King Saud University - Languages and Translation*, 24 (1), pp. 51-56.
- Al-Masrai, A. (2009) *Measuring the English Vocabulary Size of Saudi University Students: Validating a New 10,000 Word Vocabulary Size Test*. MA thesis, Swansea University.
- Al-Nujaidi, A. (2003) *The Relationship between Vocabulary Size, Reading Strategies, and Reading Comprehension of EFL Learners in Saudi Arabia*. PhD thesis, Oklahoma State University.
- Al-Rakaf, A. (2014) Twitter an 'artery of Life' for Saudis. *Arab News* [Online], 5 February. Available from: <<http://www.arabnews.com/news/517731>> (Accessed 8 September 2014).
- Al-Shehri, S. (2011) Context in Our Pockets: Mobile Phones and Social Networking as Tools of Contextualising Language Learning. In: *10th World Conference on Mobile and contextual Learning, 2011*. Beijing.
- Alavinia, P. & Qoitassi, K. (2013) On the Viability of Vocabulary Learning Enhancement through the Implementation of MALL: The Case of Iranian EFL Learners. *Journal of Language Teaching and Research*, 4 (2) March, pp. 412-426.
- Albousaif, M. (2011) *Factors Determining Saudi Learners' Difficulties in Attaining EFL Vocabulary*. PhD thesis, The University of Newcastle.

- Alebaikan, R. (2010) *Perceptions of Blended Learning in Saudi Universities*. PhD thesis, The University of Exeter.
- Alghafri, H. (2013) *Ethics of Using Technical and Communication Resources* [Online]. Centre Arabe de Recherches Juridiques et Judiciaires (CARJJ). Available from: <<http://www.carjj.org>>.
- Alhumood, F. (2007) *Vocabulary Acquisition via Extensive Input*. PhD thesis, University of Nottingham.
- Ally, M. ed. (2009) *Mobile Learning: Transforming the Delivery of Education and Training*. Edmonton: Athabasca University Press.
- Almarwani, M. (2011) ML for EFL: Rationale for Mobile Learning. In: *ICT for Language Learning, 2011*. Florence.
- Alnujaidi, S. (2008) *Factors Influencing English Language Faculty Members' Adoption and Integration of Web-Based Instruction (WBI) in Saudi Arabia*. PhD thesis, University of Kansas.
- Allothman, K. (2014) *Investigating the Impact of Focusing on Academic Vocabulary Using Multiple Assessment Measures*. PhD thesis, University of Roehampton.
- Alqahtani, M. (2005) *The Use of Vocabulary Learning Strategies by EFL Learners at Three Different Educational Levels*. PhD thesis, University of Essex.
- Alqahtani, M. (2011) *An Investigation into the Language Needs of Saudi Students Studying in British Postgraduate Programmes and the Cultural Differences Impacting on Them*. PhD thesis, University of Southampton.
- AlShammari, M. (2007) *Saudi English as a Foreign Language Learners' Attitudes toward Computer-Assisted Language Learning*. PhD thesis, University of West Virginia.
- Altameem, T. (2011) Contextual Mobile Learning System for Saudi Arabian Universities. *International Journal of Computer Applications*, 21 (4), pp. 21-26.
- Altiner, C. (2011) *Integrating a Computer-Based Flashcard Program into*

Academic Vocabulary Learning. MS thesis, Iowa State University.

Alzahrani, I. (2013) *The Impact of Using Wiki Technology in Learning Biology among Al-Baha University Students: Perceptions, Knowledge, E-Learning Skills and Attitudes*. PhD thesis, University of Southampton.

Amiryousefi, M. & Kassaian, Z. (2010) The Effects of Reading Only vs. Reading plus Enhancement Activities on Vocabulary Learning and Production of Iranian Pre-University Students. *English Language Teaching*, 3 (2), pp. 94–98.

Anderson, T. & Dron, J. (2014) *Teaching Crowds: Learning and Social Media*. Edmonton: Athabasca University Press.

Andrade, M. & Williams, K. (2009) Foreign Language Learning Anxiety in Japanese EFL University Classes: Physical, Emotional, Expressive, and Verbal Reactions. *Sophia Junior College Faculty Journal*, 29, pp. 1–24.

Ansari, A. (2012) Teaching of English to Arab Students: Problems and Remedies. *Educational Research*, 3 (6), pp. 519–524.

Attewell, J. (2005) Mobile Technologies and Learning: A Technology Update and M-Learning Project Summary [Online]. the Learning and Skills Development Agency. Available from:
<http://ceel.sums.ac.ir/images/stories/research/pdf/The_m-learning_project_-_technology_update_and_project_summary.pdf>
[Accessed 6 August 2013].

August, D., Carlo, M., Calderón, M. & Nuttall, M. (2006) Developing Literacy in English-Language Learners: An Examination of the Impact of English-Only versus Bilingual Instruction. In: McCardle, P. & Hoff, E. ed., *Childhood bilingualism: Research on infancy through school age*. Clevedon, England: Multilingual Matters, pp. 91–106.

Azar, A. & Nasiri, H. (2014) Learners' Attitudes toward the Effectiveness of Mobile Assisted Language Learning (MALL) in L2 Listening Comprehension. *Procedia - Social and Behavioral Sciences*, 98, pp. 1836–1843.

Barcroft, J. (2002) Semantic and Structural Elaboration in L2 Lexical Acquisition. *Language Learning*, 52 (2), pp. 323–363.

- Başoğlu, E. & Akdemir, O. (2010) A Comparison of Undergraduate Students' English Vocabulary Learning: Using Mobile Phones and Flash Cards. *The Turkish Online Journal of Educational Technology*, 9 (3), pp. 1–7.
- Baykal, G. & Daventry, A. (2000) Vocabulary for Interacting with. In: *The 5th METU International ELT Convention: Interaction on the threshold of a new millennium, 2000*. pp. 168–173.
- Beal, V. (2007) *The Weight of Involvement Load in College Level Reading and Vocabulary Tasks*. MA thesis, Concordia University.
- Becker, W. (1977) Teaching Reading and Language to the disadvantaged—What We Have Learned from Field Research. *Harvard Educational Review*, 47 (4).
- 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), pp. 105–115.
- Belz, J. (2002) Social Dimensions of Telecollaborative Foreign Language Study. *Language Learning & Technology*, 6 (1), pp. 60–81.
- Benson, P. (2013) *Teaching and Researching Autonomy*. London: Routledge.
- Benson, P. & Voller, P. (2014) *Autonomy and Independence in Language Learning*. London: Routledge.
- Bensoussan, M. & Laufer, B. (1984) Lexical Guessing in Context in EFL Reading Comprehension. *Journal of Research in Reading*, 7 (1) February, pp. 15–32.
- Borau, K., Ullrich, C., Feng, J. & Shen, R. (2009) Microblogging for Language Learning: Using Twitter to Train Communicative and Cultural Competence. In: Spaniol, M., Li, Q., Klamma, R. & Lau, R. W. H. ed., *Advances in web based learning - ICWL 2009*. Springer Berlin Heidelberg, pp. 78–87.
- Boulay, B., Coultas, J. & Luckin, R. (2008) How Compelling Is the Evidence for the Effectiveness of E-Learning in the Post-16 Sector? *Cognitive Science Research Papers, University of Sussex*.
- Brandl, K. (2002) Integrating Internet-Based Reading Materials into the Foreign Language Curriculum: From Teacher- to Student -Centered Approaches.

Language Learning & Technology, 6 (3), pp. 87–107.

Braun, V. & Clarke, V. (2006) Using Thematic Analysis in Psychology.

Qualitative Research in Psychology, 3 (2), pp. 77–101.

Brent, M. & Siskind, J. (2001) The Role of Exposure to Isolated Words in Early Vocabulary Development. *Cognition*, 81 (2) September, pp. 33–44.

Brinkmann, S. (2013) *Qualitative Interviewing*. New York: Oxford University Press.

Brinkmann, S. & Kvale, S. (2014) *Interviews: Learning the Craft of Qualitative Research Interviewing*. London: SAGE Publications.

Brown, D. (2010) What Aspects of Vocabulary Knowledge Do Textbooks Give Attention To? *Language Teaching Research*, 15 (1) December, pp. 83–97.

Brown, J. (2001) *Using Surveys in Language Programs*. Cambridge: Cambridge University Press.

Bryan, A. (2004) Going Nomadic: Mobile Learning in Higher Education.

EDUCAUSE Review, 39 (5), pp. 29–35.

Bryman, A. (2004) Triangulation. In: Lewis-Beck, M. S., Bryman, A. & Liao, T. F. ed., *Encyclopedia of social science research methods*. London: SAGE Publications, pp. 1143–1144.

Carter, W. (2011) *The Uniqueness of Twitter, Its Bite-Size Contents and Global Network Economy* [Online]. SiteProNews. Available from:

<<http://www.sitepronews.com/2011/08/05/the-uniqueness-of-twitter-its-bite-size-contents-and-global-network-economy-a-spn-exclusive/>>

[Accessed 11 November 2014].

Chanchary, F. & Islam, S. (2011) Mobile Learning in Saudi Arabia - Prospects and Challenges [Online]. In: *ACIT, 2011*. Riyadh. Available from:

<<http://www.nauss.edu.sa/acit/PDFs/f2534.pdf>>.

Chang, C. & Hsiao, K.-C. (2010) Using SOA Concept to Construct an E-Learning System for College Information Management Courses. In: Pan, J.-S., Chen, S.-M. & Nguyen, N. T. ed., *Computational collective intelligence*. vol. 85–94. Berlin: Springer.

- Chen, I., Chang, C. & Yen, J. (2012) Effects of Presentation Mode on Mobile Language Learning: A Performance Efficiency Perspective. *Australasian Journal of Educational Technology*, 28 (1), pp. 122–137.
- Chen, L. & Chen, T. (2012) Use of Twitter for Formative Evaluation: Reflections on Trainer and Trainees' Experiences. *British Journal of Educational Technology*, 43 (2).
- Chinnery, G. (2006) Going to the MALL: Mobile Assisted Language Learning. *Language Learning & Technology*, 10 (1), pp. 9–16.
- Choudhury, A. (2010) Teaching Vocabulary in the ESL/EFL Classroom: Central Pedagogical Issues. *The Modern Journal of Applied Linguistics*, 2 (4), pp. 306–316.
- Clark, R. & Mayer, R. (2011) *E-Learning and the Science of Instruction: Proven Guidelines for Consumers and Designers of Multimedia Learning*. San Francisco: John Wiley & Sons.
- Coady, J. (1997) L2 Vocabulary Acquisition through Extensive Reading. In: Coady, J. & Huckin, T. ed., *Second language vocabulary acquisition: A rationale for pedagogy*. Cambridge: Cambridge University Press, pp. 225–237.
- Coates, H. (2006) *Student Engagement in Campus-Based and Online Education*. London: Routledge.
- Coates, H. (2007) A Model of Online and General Campus-based Student Engagement. *Assessment & Evaluation in Higher Education*, 32 (2), pp. 121–141.
- Cohen, L., Manion, L. & Morrison, K. (2013) *Research Methods in Education*. London: Routledge.
- Compernelle, R. Van & Williams, L. (2011) Promoting Sociolinguistic Competence in the Classroom Zone of Proximal Development. *Language Teaching Research*, 16 (1) December, pp. 39–60.
- Cook, J. (2009) *Phases of Mobile Learning* [Online]. Slideshare. Available from: <<http://www.slideshare.net/johnnigelcook/cook-phases-of-mobile-learning>> [Accessed 2 August 2013].

- Cox, M. (2012) Formal to Informal Learning with IT: Research Challenges and Issues for E-Learning. *Journal of Computer Assisted Learning*, 29 (1) February, pp. 1–21.
- Cox, M., Webb, M., Abbott, C., Blakeley, B., Beauchamp, T. & Rhodes, V. (2003) ICT and Pedagogy.
- Craik, F. & Lockhart, R. (1972) Levels of Processing: A Framework for Memory Research. *Journal of Verbal Learning and Verbal Behavior*, 11, pp. 671–684.
- Creswell, J. (2013) *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*. London: SAGE Publications.
- Crotty, M. (1998) *The Foundations of Social Research: Meaning and Perspective in the Research Process*. London: SAGE Publications.
- Cui, G. & Wang, S. (2008) Adopting Cell Phones in EFL Teaching and Learning. *Journal of Educational Technology Development and Exchange*, 1 (1), pp. 69–80.
- Cui, Y. & Bull, S. (2005) Context and Learner Modelling for the Mobile Foreign Language Learner. *System*, 33 (2), pp. 353–367.
- Dahaman, A., Ismail, Z. & Fabil, N. (2012) Requirements Analysis and Arabic M-Learning Activities Module Design in the Institute of Teacher Education (ITE) in Malaysia. *Scientific Research*, 3 (12), pp. 57–60.
- Davis, F. (1989) Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology. *MIS Quarterly*, 13 (3), pp. 319–340.
- Deng, Q. (2010) *Motivation for Vocabulary Learning of College Students*. MA thesis, The University of Nebraska.
- Denzin, N. K. (1970) *The Research Act in Sociology: A Theoretical Introduction to Sociological Methods*. London: Butterworth.
- Dhir, A., Buragga, K. & Boreqqah, A. (2013) Tweepers on Campus: Twitter a Learning Tool in Classroom? *Journal of Universal Computer Science*, 19 (5), pp. 672–691.

- Dörnyei, Z. (2007) *Research Methods in Applied Linguistics: Quantitative, Qualitative, and Mixed Methodologies*. Oxford: Oxford University Press.
- Dörnyei, Z. & Taguchi, T. (2010) *Questionnaires in Second Language Research: Construction, Administration, and Processing*. London: Routledge.
- Dykstra Steinbrenner, J. & Watson, L. (2015) Student Engagement in the Classroom: The Impact of Classroom, Teacher, and Student Factors. *Journal of Autism and Developmental Disorders*, 45 (8), pp. 2392–2410.
- Ebner, M., Holzinger, A. & Maurer, H. (2007) Web 2.0 Technology: Future Interfaces for Technology Enhanced Learning? In: *the 4th International Conference on Universal Access in Human-Computer Interaction, 2007*. pp. 559–568.
- Ebner, M., Lienhardt, C., Rohs, M. & Meyer, I. (2010) Microblogs in Higher Education – A Chance to Facilitate Informal and Process-Oriented Learning? *Computers & Education*, 55 (1) August, pp. 92–100.
- Eder, K. (2006) *Vocabulary Learning Strategies*. Germany: Grin Verlag.
- El-Sadig, Y. (2012) Intervention Strategies in Saudi EFL Classroom. In: *KSAALT Fifth Conference, Effat University, 2012*. Jeddah, Saudi Arabia.
- Ellis, N. (1997) Vocabulary Acquisition: Word Structure, Collocation, Word-Class, and Meaning. In: McCarthy, M. & Schmitt, N. ed., *Vocabulary: description, acquisition and pedagogy*. pp. 122–139.
- Ellison, N. B., Steinfield, C. & Lampe, C. (2007) The Benefits of Facebook ‘friends:’ Social Capital and College Students’ Use of Online Social Network Sites. *Journal of Computer-Mediated Communication*, 12 (4) July, pp. 1143–1168.
- Etherington, K. (2004) *Becoming a Reflexive Researcher - Using Our Selves in Research*. London: Jessica Kingsley Publishers.
- Facer, K. & Sandford, R. (2010) The next 25 Years?: Future Scenarios and Future Directions for Education and Technology. *Journal of Computer Assisted Learning*, 26 (1), pp. 74–93.
- Fisher, T., Sharples, M., Pemberton, R., Ogata, H., Uosaki, N., Edmonds, P.,

- Hull, A. & Tschorn, P. (2012) Incidental Second Language Vocabulary Learning from Reading Novels. *International Journal of Mobile and Blended Learning*, 4 (4), pp. 47-61.
- Flowerdew, J. (1993) Concordancing as a Tool in Course Design. *System*, 21 (2), pp. 231-244.
- Folse, K. S. (2006) The Effect of Type of Written Exercise on L2 Vocabulary Retention. *Tesol Quarterly*, 40 (2), pp. 273-293.
- Fontana, A. & Prokos, A. (2007) *Interview: From Formal to Postmodern*. Walnut Creek: Left Coast Press.
- Fozdar, B. I. & Kumar, L. S. (2007) Mobile Learning and Student Retention. *International Review of Research in Open and Distance Learning*, 8 (2), pp. 1-18.
- Franklin, T. & Peng, L. W. (2008) Mobile Math: Math Educators and Students Engage in Mobile Learning. *Journal of Computing in Higher Education*, 20 (2), pp. 69-80.
- Fredricks, J., Blumenfeld, P. & Paris, A. (2004) School Engagement: Potential of the Concept , State of the Evidence. *Review of Educational Research*, 74 (1), pp. 59-109.
- Frigaard, A. (2002) *Does the Computer Lab Improve Student Performance on Vocabulary, Grammar, and Listening Comprehension?* MA thesis, Winona State University.
- Fulbright, S. (2013) *Cell Phones in the Classroom : What's Your Policy?* [Online]. Faculty Focus. Available from: <<http://www.facultyfocus.com/articles/effective-classroom-management/cell-phones-in-the-classroom-whats-your-policy/>> [Accessed 20 July 2014].
- Georgiev, T., Georgieva, E. & Smrikarov, A. (2004) M-Learning - A New Stage of E-Learning. In: *International Conference on Computer Systems and Technologies, 2004*.
- Ghirardini, B. (2011) *E-Learning Methodologies: A Guide for Designing and Developing E-Learning Courses*. FAO.

- Ghorbani, M. & Rahmandoust, M. (2012) Higher Task-Induced Involvement Load Enhances Students' EFL Vocabulary Learning. *Journal of Language Teaching and Research*, 3 (6) November, pp. 1202–1207.
- Gibbs, A. (1997) Focus Groups. *Social Research Update*, (19).
- Gikas, J. & Grant, M. M. (2013) Mobile Computing Devices in Higher Education: Student Perspectives on Learning with Cellphones, Smartphones & Social Media. *The Internet and Higher Education*, 19, pp. 18–26.
- Gillham, B. (2005) *Research Interviewing: The Range of Techniques*. Berkshire: McGraw-Hill.
- Gimenes, M. & New, B. (2016) Worldlex: Twitter and Blog Word Frequencies for 66 Languages. *Behavior Research Methods*, 48 (3), pp. 963–972.
- Godwin-Jones, R. (2008) Emerging Technologies Mobile-Computing Trends: Lighter, Faster, Smarter. *Language Learning & Technology*, 12 (3), pp. 3–9.
- Godwin-Jones, R. (2011) Emerging Technologies: Mobile Apps for Language Learning. *Language Learning & Technology*, 15 (2), pp. 2–11.
- Grabe, W. & Stoller, F. (1997) Reading and Vocabulary Development in a Second Language: A Case Study. In: Coady, J. & Huckin, T. ed., *Second language vocabulary acquisition: A rationale for pedagogy*. Cambridge: Cambridge University Press, pp. 98–121.
- Grami, M. G. (2012) Are Learner-Centred Approaches the Answer to Saudi Language Classes? *ARECLS*, 9, pp. 1–14.
- Greenhow, C., Robelia, B. & Hughes, J. (2009) Learning, Teaching, and Scholarship in a Digital Age: Web 2.0 and Classroom Research: What Path Should We Take Now? *Educational Researcher*, 38 (4) June, pp. 246–259.
- Gregson, J. & Jordaan, D. (2009) Exploring the Challenges and Opportunities of M-Learning within an International Distance Education Programme. In: Ally, M. ed., *Mobile Learning: Transforming the Delivery of Education and Training*. Edmonton: Athabasca University Press, pp. 215–246.
- Groot, P. (2000) Computer Assisted Second Language Vocabulary Acquisition. *Language Learning and Technology*, 4 (1), pp. 60–81.

- Grosseck, G. & Holotescu, C. (2008) Can We Use Twitter for Educational Activities? In: *The 4th International Scientific Conference eLSE 'eLearning and Software for Education', 2008*.
- Guariento, W. & Morley, J. (2001) Text and Task Authenticity in the EFL Classroom. *ELT journal*, 55 (10), pp. 347–353.
- Guba, E. & Lincoln, Y. (1994) Competing Paradigms in Qualitative Research. In: Denzin, N. & Lincoln, Y. ed., *Handbook of qualitative research*. London: SAGE Publications, pp. 105–117.
- Hairrell, A., Rupley, W. & Simmons, D. (2011) The State of Vocabulary Research. *Literacy Research and Instruction*, 50 (4) October, pp. 253–271.
- Hamidon, I., Alias, N., Siraj, S., Kokila, K., Mohammed, M. & Thanabalan, T. (2013) Potential of Twitter in Post-Reading Activities among Community College Students in Malaysia. *Procedia - Social and Behavioral Sciences*, 103 November, pp. 725–734.
- Hamouda, A. (2013) An Exploration of Causes of Saudi Students' Reluctance to Participate in the English Language Classroom. *International Journal of English Language Education*, 1 (1) November.
- Hedge, T. (2000) *Teaching and Learning in the Language Classroom*. Oxford: Oxford University Press.
- Heigham, J. & Croker, R. (2009) *Qualitative Research in Applied Linguistics: A Practical Introduction*. Palgrave Macmillan.
- Henriksen, B. (1999) Three Dimensions of Vocabulary Development. *Studies in Second Language Acquisition*, 21 (2), pp. 303–317.
- Herrington, J., Oliver, R. & Reeves, T. (2003) Patterns of Engagement in Authentic Online Learning Environments. *Australian Journal of Education Technology*, 19 (1), pp. 59–71.
- Hill, M. & Laufer, B. (2003) Type of Task, Time on-Task and Electronic Dictionaries in Incidental Vocabulary Acquisition. *IRAL*, 41 (2), pp. 87–106.
- Hirsh, D. & Nation, P. (1992) What Vocabulary Size Is Needed to Read Unsimplified Texts for Pleasure? *Reading in a Foreign Language*, 8 (2), pp.

689-695.

Hlodan, O. (2010) Mobile Learning Anytime, Anywhere. *BioScience*, 60 (9) October, pp. 682-682.

Hobrom, A. I. (2004) *Online Resources and Learner Autonomy: A Study of College-Level Students of Arabic*. PhD thesis, The University of Texas at Austin.

Honeycutt, C. & Herring, S. (2009) Beyond Microblogging: Conversation and Collaboration via Twitter. In: *Proceedings of the 42nd Hawaii International Conference on System Sciences, 2009*. Hawaii, pp. 1-10.

Hsu, L. (2013) English as a Foreign Language Learners' Perception of Mobile Assisted Language Learning: A Cross-National Study. *Computer Assisted Language Learning*, 26 (3), pp. 197-213.

Hsu, L. & Lee, S. (2011) Learning Tourism English on Mobile Phones: How Does It Work? *The Journal of Hospitality Leisure Sport and Tourism*, 10 (2) October, pp. 85-94.

Hu, S. & Kuh, G. D. (2002) Being (Dis)engaged in Educationally Purposeful Activities: The Influences of Student and Institutional Characteristics. vol. 43. pp. 555-575.

Hubbard, P. (2004) Learner Training for Effective Use of CALL. In: Fotos, S. & Browne, C. M. ed., *New Perspectives on CALL for Second Language Classrooms*. London: Routledge, pp. 45-68.

Hubbard, P. (2013) Making a Case for Learner Training in Technology Enhanced Language Learning Environments. *CALICO Journal*, 30 (2), pp. 163-178.

Huberman, B., Romero, D. & Wu, F. (2008) Social Networks That Matter: Twitter under the Microscope. *SSRN Electronic Journal*, pp. 1-9.

Huckin, T. & Coady, J. (1999) Incidental Vocabulary Acquisition in a Second Language. *Studies in second language acquisition*, 21, pp. 181-193.

Hughes, P. (2010) Paradigms, Methods and Knowledge. In: Naughton, G., Rolfe, S. & Siraj-Blatchford, I. ed., *Doing early childhood research*. McGraw Hill,

pp. 35–61.

Hulstijn, J. (2001) Intentional and Incidental Second-Language Vocabulary Learning: A Reappraisal of Elaboration, Rehearsal and Automaticity. In: Robinson, P. ed., *Cognition and Second Language Instruction*. Cambridge: Cambridge University Press, pp. 258–286.

Hulstijn, J. (2005) THEORETICAL AND EMPIRICAL ISSUES IN THE STUDY OF IMPLICIT AND EXPLICIT SECOND-LANGUAGE LEARNING: Introduction. *Studies in Second Language Acquisition* [Online], 27 (2) June, pp. 129–140. Available from:
<http://www.journals.cambridge.org/abstract_S0272263105050084> [Accessed 20 October 2014].

Hulstijn, J. & Laufer, B. (2001) Some Empirical Evidence for the Involvement Load Hypothesis in Vocabulary Acquisition. *Language Learning*, 513 (September), pp. 539–558.

Hunt, A. & Beglar, D. (2005) A Framework for Developing EFL Reading Vocabulary. *Reading in a Foreign language*, 17 (1).

Hussein, A. & Nassuora, A. (2011) Academic Attitudes towards the Use of Mobile Phone Technologies for Knowledge Sharing in Higher Education Institutions: An Exploratory Survey. *American Academic & Scholarly Research Journal*, 3 (1), pp. 6–9.

Janosz, M., Archambault, I., Morizot, J. & Pagani, L. (2008) School Engagement Trajectories and Their Differential Predictive Relations to Dropout. *Journal of Social Issues*, 64 (1), pp. 21–40.

Jiffry, F. (2013) Reliance on Mobile Phones for Various Tasks up in the Kingdom of Saudi Arabia. *Arab News* [Online], 3 May. Available from:
<<http://www.arabnews.com/news/450254>> [Accessed 23 June 2013].

Jing, L. & Jianbin, H. (2009) An Empirical Study of the Involvement Load Hypothesis in Incidental Vocabulary Acquisition in EFL Listening. *Polyglossia*, 16.

Joe, A. (2010) The Quality and Frequency of Encounters with Vocabulary in an English for Academic Purposes Programme. *Reading in a Foreign*

Language, 22 (1), pp. 117–138.

- Johnson, R. & Onwuegbuzie, A. (2004) Mixed Methods Research: A Research Paradigm Whose Time Has Come. *Educational Researcher* [Online], 33 (7), pp. 14–26. Available from:
<<http://edr.sagepub.com/content/33/7/14.short>>.
- Jones, A. C. (2008) The Effects of out-of-Class Support on Student Satisfaction and Motivation to Learn. *Communication Education*, 57 (3) July, pp. 373–388.
- Jones, C., Ramanau, R., Cross, S. & Healing, G. (2010) Net Generation or Digital Natives: Is There a Distinct New Generation Entering University? *Computers & Education*, 54 (3) April, pp. 722–732.
- Jones, G., Edwards, G. & Reid, A. (2009) How Can Mobile SMS Communication Support and Enhance a First Year Undergraduate Learning Environment? *Association for Learning Technology*, 17 (3) November, pp. 201–218.
- Jordan, E. (2013) A True/false Translation Test for English Vocabulary Size Assessment in a Japanese Context. *Polyglossia*, 25 (10), pp. 391–411.
- Joseph, S. R. H. & Uther, M. (2009) Mobile Devices for Language Learning: Multimedia Approaches. *Research and Practice in Technology Enganced Learning*, 4 (1), pp. 7–32.
- Junco, R., Elavsky, C. & Heiberger, G. (2013) Putting Twitter to the Test: Assessing Outcomes for Student Collaboration, Engagement and Success. *British Journal of Educational Technology*, 44 (2), pp. 273–287.
- Junco, R., Heiberger, G. & Loken, E. (2011) The Effect of Twitter on College Student Engagement and Grades. *Journal of Computer Assisted Learning*, 27 (2) April, pp. 119–132.
- Kaplan, A. M. & Haenlein, M. (2010) Users of the World, Unite! The Challenges and Opportunities of Social Media. *Business Horizons*, 53 (1) January, pp. 59–68.
- Kaplan, A. M. & Haenlein, M. (2011) The Early Bird Catches the News: Nine Things You Should Know about Micro-Blogging. *Business Horizons*, 54 (2), pp. 105–113.

- Kassens-Noor, E. (2012) Twitter as a Teaching Practice to Enhance Active and Informal Learning in Higher Education: The Case of Sustainable Tweets. *Active Learning in Higher Education*, 13 (1), pp. 9–21.
- Katz, A. (2012) *Cyberbullying and E-Safety: What Educators and Other Professionals Need to Know*. London: Jessica Kingsley Publishers.
- Keating, G. D. (2008) Task Effectiveness and Word Learning in a Second Language: The Involvement Load Hypothesis on Trial. *Language Teaching Research*, 12 (3), pp. 365–386.
- Kenny, R., Park, C., Neste-Kenny, J., Burton, P. & Meiers, J. (2009) Using Mobile Learning to Enhance the Quality of Nursing Practice Education. In: *Mobile Learning: Transforming the Delivery of Education and Training*. Ally, Mohammed, pp. 75–98.
- Khrisat, A. & Mahmoud, S. (2013) Integrating Mobile Phones into the EFL Foundation Year Classroom in King Abdulaziz University/KSA: Effects on Achievement in General English and Students' Attitudes. *English Language Teaching*, 6 (8) July, pp. 162–174.
- Khwaileh, F. & Al-Jarrah, A. (2010) Graduate Students' Perceptions toward Mobile-Learning (M-Learning) at the University of Jordan. *International Journal of Instructional Technology and Distance Learning*, 7 (10), pp. 15–23.
- Kitade, K. (2000) L2 Learners' Discourse and SLA Theories in CMC: Collaborative Interaction in Internet Chat. *Computer assisted language learning*, 12 (2), pp. 143–266.
- Kitano, K. (2001) Anxiety in the College Japanese Language Classroom. *The Modern Language Journal*, 85 (4), pp. 549–566.
- Klopfer, E., Squire, K. & Jenkins, H. (2002) Environmental Detectives: PDAs as a Window into a Virtual Simulated World. In: *the IEEE International Workshop on Wireless and Mobile Technologies in Education, 2002*. pp. 95–98.
- Kondo, M., Ishikawa, Y. & Smith, C. (2012) Mobile Assisted Language Learning in University EFL Courses in Japan: Developing Attitudes and Skills for Self-Regulated Learning. *ReCALL*, 24 (2) May, pp. 169–187.

- Kop, R. (2011) The Challenges to Connectivist Learning on Open Online Networks: Learning Experiences during a Massive Open Online Course. *International Review of Research in Open and Distance Learning*, 12 (3), pp. 19–38.
- Krashen, S. (1989) We Acquire Vocabulary and Spelling by Reading: Additional Evidence for the Input Hypothesis. *Source: The Modern Language Journal*, 73 (4), pp. 440–464.
- Kuh, G. D. (2009) What Student Affairs Professionals Need to Know about Student Engagement. *Journal of College Student Development*, 50 (6), pp. 683–706.
- Kukulska-Hulme, A. (2007) Mobile Usability in Educational Contexts: What Have We Learnt? *International Review of Research in Open and Distance Learning*, 8 (2).
- Kukulska-Hulme, A. (2009) Will Mobile Learning Change Language Learning? *ReCALL*, 21 (2) May, p. 157.
- Kukulska-Hulme, A. & Pettit, J. (2009) Practitioners as Innovators: Emergent Practice in Personal Mobile Teaching, Learning, Work, and Leisure. In: Ally, M. ed., *Transforming the Delivery of Education and Training*. Edmonton: Athabasca University Press, pp. 135–156.
- Kukulska-Hulme, A. & Shield, L. (2007) *An Overview of Mobile Assisted Language Learning: Can Mobile Devices Support Collaborative Practice in Speaking and Listening* [Online]. Available from: <http://sites.google.com/site/vsportal2007/Kukulska_Hulme_and_Shield_2007.pdf> [Accessed 28 January 2014].
- Kukulska-Hulme, A. & Shield, L. (2008) An Overview of Mobile Assisted Language Learning: From Content Delivery to Supported Collaboration and Interaction. *ReCALL*, 20 (3) August, pp. 271–289.
- Kukulska-Hulme, A. & Traxler, J. eds. (2005) *Mobile Learning: A Handbook for Educators and Trainers*. London: Routledge.
- Kwak, H., Lee, C., Park, H. & Moon, S. (2010) What Is Twitter, a Social Network or a News Media? In: *the 19th international conference on World wide web*,

2010. Raleigh, pp. 591–600.

Lantolf, J. (2000) Second Language Learning as a Mediated Process. *Language Teaching*, 33 (2) June, pp. 79–96.

Lantolf, J. (2006) The Zone of Proximal Development. In: Lantolf, J. ed., *Sociocultural theory and the genesis of second language development*. Oxford: Oxford University Press, pp. 263–290.

Lantolf, J. & Appel, G. (1994) Theoretical Framework: An Introduction to Vygotskian Approaches to Second Language Research. In: Lantolf, J. P. & Appel, G. ed., *Vygotskian approaches to second language research*. Norwood: Ablex, pp. 1–32.

Lantolf, J. P. & Aljaafreh, A. (1995) Second Language Learning in the Zone of Proximal Development: A Revolutionary Experience. *International Journal of Educational Research*, 23 (7) January, pp. 619–632.

Lantolf, J. & Thorne, S. (2007) Sociocultural Theory and Second Language Learning. In: Patten, B. van & Williams, J. ed., *Theories in Second Language Acquisition*. Mahwah: Lawrence Erlbaum, pp. 197–221.

Laouris, Y. & Eteokleous, N. (2005) We Need an Educationally Relevant Definition of Mobile Learning. In: *The 4th World Conference on Mobile Learning, mLearn 2005*, 2005. Cape Town.

Laufer, B. (2009) Second Language Vocabulary Acquisition from Language Input and from Form-Focused Activities. *Language Teaching*, 42 (3), p. 341.

Laufer, B. & Girsai, N. (2008) Form-Focused Instruction in Second Language Vocabulary Learning: A Case for Contrastive Analysis and Translation. *Applied Linguistics*, 29 (4) January, pp. 694–716.

Laufer, B. & Goldstein, Z. (2004) Testing Vocabulary Knowledge: Size, Strength, and Computer Adaptiveness. *Language Learning*, 54 (3), pp. 399–436.

Laufer, B. & Hulstijn, J. (2001) Incidental Vocabulary Acquisition in a Second Language: The Construct of Task-Induced Involvement. *Applied Linguistics*, 22, pp. 1–26.

- Laufer, B. & Nation, P. (1995) Vocabulary Size and Use: Lexical Richness in L2 Written Production. *Applied Linguistics*, 16 (3) September, pp. 307–322.
- Laufer, B. & Ravenhorst-Kalovski, G. (2010) Lexical Threshold Revisited: Lexical Text Coverage, Learners' Vocabulary Size and Reading Comprehension. *Reading in a Foreign Language*, 22 (1), pp. 15–30.
- Laufer, B. & Rozovski-Roitblat, B. (2011) Incidental Vocabulary Acquisition: The Effects of Task Type, Word Occurrence and Their Combination. *Language Teaching Research*, 15 (4) August, pp. 391–411.
- Laufer, B. & Shmueli, K. (1997) Memorizing New Words: Does Teaching Have Anything To Do With It? *RELC Journal*, 28 (1), pp. 89–108.
- Laufer, B. & Sim, D. D. (1985) Taking the Easy Way out: Non-Use and Misuse of Contextual Clues in EFL Reading Comprehension. *English Teaching Forum*, 23 (2), pp. 7–10.
- Lee, J. H., Lee, H. & Sert, C. (2015) Emerging Technologies a Corpus Approach for Autonomous Teachers and Learners: Implementing an on-Line Concordancer on Teachers' Laptops. *Language Learning & Technology*, 19 (192), pp. 1–15.
- Leedy, P. & Ormrod, J. (2005) *Practical Research: Planning and Design*. Pearson Merrill Prentice Hall.
- Leki, I. & Carson, J. (1994) Students' Perceptions of EAP Writing Instruction and Writing Needs across the Disciplines. *Tesol Quarterly*, 28 (1), pp. 82–102.
- Levy, M. & Kennedy, C. (2005) Learning Italian via Mobile SMS. In: Kukulska-Hulme, A. ed., *Mobile Learning: A Handbook for Educators And Trainers*. Routledge, pp. 76–83.
- Levy, M. & Stockwell, G. (2006) *CALL Dimensions: Options and Issues in Computer Assisted Language Learning*. Routledge.
- Lewis, J. & Nicholls, C. (2014) Design Issues. In: Ritchie, J., Lewis, J., Nicholls, C. & Ormston, R. ed., *Qualitative research practice: A guide for social science students and researchers*. London: SAGE Publications, pp. 47–76.
- Li, D. (2011) Facilitating Students' Understanding of English News: Peer

- Scaffolding in an EFL Listening Classroom. In: *Studies in Second and Foreign Language Education*. Boston: Walter de Gruyter, Inc.
- Lichtman, M. (2006) *Qualitative Research in Education: A User's Guide*. London: SAGE Publications.
- Lin, M., Hoffman, E. & Borengasser, C. (2013) Is Social Media Too Social for Class? A Case Study of Twitter Use. *TechTrends*, 57 (2) February, pp. 39–45.
- Lincoln, Y., Lynham, S. & Guba, E. (2011) Paradigmatic Controversies, Contradictions, and Emerging Confluences, Revisited. In: Denzin, N. & Lincoln, Y. ed., *The SAGE handbook of qualitative research*. London: SAGE Publications, pp. 97–128.
- Litosseliti, L. (2003) *Using Focus Groups in Research*. London: Continuum.
- Little, D. (2007) Language Learner Autonomy: Some Fundamental Considerations Revisited. *Innovation in Language Learning and Teaching*, 1 (1), pp. 14–29.
- Littlewood, W. (1984) *Foreign and Second Language Learning: Language Acquisition Research and Its Implications for the Classroom*. Cambridge: Cambridge University Press.
- Liu, I., Cheung, C. & Lee, M. (2010) Understanding Twitter Usage : What Drive People Continue to Tweet. *Proceedings of the Pacific Asia Conference on Information Systems*, pp. 927–939.
- Liu, Y. (2010) Social Media Tools as a Learning Resource. *Journal of Educational Technology Development and Exchange*, 3 (1), pp. 101–114.
- Llic, P. (2013) *The Impact of Mobile Phones on Collaborative Learning Activities*. PhD thesis, University of Exeter.
- Lomicka, L. & Lord, G. (2012) A Tale of Tweets: Analyzing Microblogging among Language Learners. *System*, 40 (1) March, pp. 48–63.
- Lominé, L. & Buckingham, C. (2009) *M-Learning: Texting (SMS) as a Teaching & Learning Tool in Higher Arts Education* [Online]. Available from: <<http://www.elia-artschools.org/images/activiteiten/18/files/Lomine> -

- Texting as a tool for teaching.pdf> [Accessed 25 June 2013].
- Lu, M. (2008) Effectiveness of Vocabulary Learning via Mobile Phone. *Journal of Computer Assisted Learning*, 24 (6) October, pp. 515–525.
- Lunsford, T. & Lunsford, B. (1995) The Research Sample, Part I: Sampling. *Journal of Prosthetics and Orthotics*, 7 (3), pp. 105–112.
- MacDonald, C. & Stodel, E. (2005) Addressing the eLearning Contradiction: A Collaborative Approach for Developing a Conceptual Framework Learning Object. *Interdisciplinary Journal of Knowledge and Learning Objects*, 1, pp. 79–98.
- Malamed, C. (2012) *What's Different about Mobile Learning?* [Online]. ASTD.org. Available from:
<<http://www.astd.org/Publications/Blogs/Learning-Technologies-Blog/2012/02/Whats-Different-About-Mobile-Learning>> [Accessed 10 July 2013].
- Mari, M. (2013) *Twitter Usage Is Booming in Saudi Arabia* [Online]. GlobalWebIndex. Available from:
<<https://www.globalwebindex.net/blog/twitter-usage-is-booming-in-saudi-arabia>> [Accessed 8 September 2014].
- Martin, F. & Ertzberger, J. (2013) Here and Now Mobile Learning: An Experimental Study on the Use of Mobile Technology. *Computers & Education*, 68 October, pp. 76–85.
- Maxwell, J. (2012) *Qualitative Research Design: An Interactive Approach*. London: SAGE Publications.
- McCarthy, M. (1990) *Vocabulary*. Oxford: Oxford University Press.
- Meara, P. (1980) Vocabulary Acquisition: A Neglected Aspect of Language Learning. *Language Teaching*, 13 (3–4), pp. 221–246.
- Meara, P. (1990) A Note on Passive Vocabulary. *Second Language Research*, 6 (2), pp. 150–154.
- Meara, P. (1995) The Importance of an Early Emphasis on L2 Vocabulary. *Language Teacher*, 19 (2), pp. 8–11.

- Meara, P. & Milton, J. (2006) X-Lex: The Swansea Vocabulary Levels Test. In: Coombe, C., Davidson, P. & D, L. ed., *the 7th and 8th Current Trends in English Language testing (CTELT) Conference, 2006*. Dubai: TESOL Arabia, pp. 29–39.
- Melka Teichroew, F. (1982) Receptive versus Productive Vocabulary: A Survey. *Interlanguage Studies Bulletin*, pp. 5–33.
- Melka Teichroew, F. (1997) Productive vs. Receptive Aspects of Vocabulary. In: Schmitt, N. & McCarthy, M. ed., *Vocabulary: description, acquisition and pedagogy*. Cambridge: Cambridge University Press, pp. 84–102.
- Mertens, D. (2014) *Research and Evaluation in Education and Psychology: Integrating Diversity with Quantitative, Qualitative, and Mixed Methods*. London: SAGE Publications.
- Miangah, T. & Nezarat, A. (2012) Mobile-Assisted Language Learning. *International Journal of Distributed and Paraller Systems*, 3 (1), pp. 309–319.
- Miller, R. & Brewer, J. (2003) *The A-Z of Social Research: A Dictionary of Key Social Science Research Concepts*. London: SAGE Publications.
- Miller, R. & Butler, J. (2011) Outcomes Associated with Student Engagment. In: Miller, R. L., Amsel, E., Kowalewski, B. M., Beins, B. C., Keith, K. D. & Peden, B. F. ed., *Promoting Student Engagement*. Society for the Teaching of Psychology, pp. 18–23.
- Mills, N. (2011) Situated Learning through Social Networking Communities: The Development of Joint Enterprise, Mutual Engagement, and a Shared Repertoire. *CALICO Journal*, 28 (2), pp. 345–368.
- Milton, J. & Hopkins, N. (2005) Aural Lex.
- Milton, J., Wade, J. & Hopkins, N. (2010) Aural Word Recognition and Oral Competence in a Foreign Language. In: Chacón-Beltrán, R., Abello-Contesse, C. & Torreblanca-López, M. ed., *Insights into Non-native Vocabulary Teaching and Learning*. Multilingual Matters, pp. 83–98.
- Mitchell, R., Myles, F. & Marsden, E. (2013) *Second Language Learning Theories*. London: Routledge.

- MOHE (2010) *E-Learning and Distance Education*. vol. 31.
- Moir, J. & Nation, P. (2008) *Vocabulary and Good Language Learners*. Cambridge: Cambridge University Press.
- Mollett, A., Moran, D. & Dunleavy, P. (2011) Using Twitter in University Research, Teaching and Impact Activities: A Guide for Academics and Researchers. *LSE Public Policy Group*.
- Mondria, J. (2003) The Effects of Inferring, Verifying, and Memorizing on the Retention of L2 Word Meanings. *Studies in Second Language Acquisition*, 25 (4), pp. 473–99.
- Mondria, J. & Boer, M. (1991) The Effects of Contextual Richness on the Guessability and the Retention of Words in a Foreign Language. *Applied Linguistics*, 12 (3) September, pp. 249–267.
- Mondria, J. & Mondria-De Vries, S. (1994) Efficiently Memorizing Words with the Help of Word Cards and ‘hand Computer’: Theory and Applications. *System*, 22 (1) February, pp. 47–57.
- Moore, J., Dickson-Deane, C. & Galyen, K. (2011) E-Learning, Online Learning, and Distance Learning Environments: Are They the Same? *The Internet and Higher Education*, 14 (2) March, pp. 129–135.
- Morse, J. & Field, P.-A. (1996) *Nursing Research: The Application of Qualitative Approaches*. Nelson Thornes.
- Nagy, W. (1988) *Teaching Vocabulary to Improve Reading Comprehension*. ERIC.
- Nagy, W. (1997) On the Role of Context in First and Second Language Vocabulary Learning.
- Nagy, W. & Anderson, R. (1984) How Many Words Are There in Printed School English? *Reading Quarterly*, 19 (3), pp. 304–330.
- Nagy, W., Herman, P. & Anderson, R. (1985) Learning Words from Context. *Reading research quarterly*, 20, pp. 233–253.
- Naidu, S. (2006) *E-Learning a Guidebook of Principles, Procedures and Practices*.

- Nassaji, H. (2003) L2 Vocabulary Learning from Context: Strategies, Knowledge Sources, and Their Relationship with Success in L2 Lexical Inferencing. *TESOL Quarterly*, 37 (4) December, pp. 645-670.
- Nassuora, A. (2012) Students Acceptance of Mobile Learning for Higher Education in Saudi Arabia. *American Academic & Scholarly Research Journal*, 4 (2).
- Nation, P. (2001) *Learning Vocabulary in Another Language*. Cambridge: Cambridge University Press.
- Nation, P. (2005) Teaching Vocabulary. *Asian EFL journal*, 7, pp. 47-54.
- Nation, P. (2006) How Large a Vocabulary Is Needed for Reading and Listening? *The Canadian Modern Language Review*, 63 (1), pp. 59-82.
- Nation, P. (2012) *The Vocabulary Size Test: Information and Specification* [Online]. Victoria University of Wellington. Available from: <<http://www.victoria.ac.nz/lals/about/staff/publications/paul-nation/Vocabulary-Size-Test-information-and-specifications.pdf>>.
- Nation, P. & Coady, J. (1988) Vocabulary and Reading. In: Carter, R. & McCarthy, M. ed., *Vocabulary and Language Teaching*. London: Longman.
- Nation, P. & Meara, P. (2013) Vocabulary. In: Schmitt, N. ed., *An Introduction to Applied Linguistics*. vol. 26. London: Routledge, pp. 34-52.
- Nation, P. & Waring, R. (1997) Vocabulary Size, Text Coverage and Word Lists. In: Schmitt, N. & McCarthy, M. ed., *Vocabulary: description, acquisition and pedagogy*. Cambridge: Cambridge University Press, pp. 6-19.
- Nation, P. & Webb, S. (2011) *Researching and Analyzing Vocabulary*. Boston: Heinle, Cengage Learning.
- Newmann, F., Wehlage, G. & Lamborn, S. (1992) The Significance and Sources of Student Engagement. In: Newmann, F. M. ed., *Student engagement and achievement in American secondary schools*. Teachers College Press, pp. 11-39.
- Newton, J. (2001) Options for Vocabulary Learning through Communication Tasks. *ELT Journal*, 55 (1), pp. 30-37.

- Niell, J. (2004) *How to Choose Tools, Instruments, & Questionnaires for Intervention Research & Evaluation* [Online]. Available from: <<http://www.wilderdom.com/tools/ToolsHowChoose.html>> [Accessed 8 February 2017].
- Nikolova, O. (2002) Effects of Students' Participation in Authoring of Multimedia Materials on Student Acquisition of Vocabulary. *Language Learning & Technology*, 6 (1), pp. 100–122.
- Niu, R. & Helms-Park, R. (2014) Interaction, Modality, and Word Engagement as Factors in Lexical Learning in a Chinese Context. *Language Teaching Research*, 18 (3), pp. 345–372.
- Norwood, J. (2012) *The Problem with Modern Technology in the Classroom* [Online]. Teaching in the Middle. Available from: <<http://ww38.jrnorwood.visibli.com/share/MYSmox>> [Accessed 1 June 2013].
- O'Neill, M. (2010) *The Complete Guide to Twitter* [Online]. MakeUseOf. Available from: <<http://manuals.makeuseof.com.s3.amazonaws.com/for-mobile/twitter-guide.pdf>> [Accessed 25 August 2013].
- O'Reilly, T. (2005) *What Is Web 2.0* [Online]. O'REILLY.com. Available from: <<http://www.oreilly.com/pub/a/web2/archive/what-is-web-20.html>> [Accessed 6 November 2014].
- Oblinger, D., Oblinger, J. & Lippincott, J. (2005) Educating the Net Generation [Online]. In: *Brockport Bookshelf*. pp. 1–19. Available from: <<http://digitalcommons.brockport.edu/bookshelf/272>> [Accessed 6 August 2013].
- Oh, H. J., Ozkaya, E. & LaRose, R. (2014) How Does Online Social Networking Enhance Life Satisfaction? The Relationships among Online Supportive Interaction, Affect, Perceived Social Support, Sense of Community, and Life Satisfaction. *Computers in Human Behavior*, 30 January, pp. 69–78.
- Ormston, R., Spencer, L., Barnard, M. & Snape, D. (2014) The Foundations of Qualitative Research. In: Ritchie, J., Lewis, J., Nicholls, C. & Ormston, R. ed., *Qualitative research practice: A guide for social science students and researchers*. London: SAGE Publications, pp. 1–25.

- OurMobilePlanet (2013) *Smartphne Penetration in Saudi Arabia*.
- Pachler, N., Bachmair, B. & Cook, J. (2010) *Mobile Learning: Structures, Agency, Practices*. Boston: Springer.
- Palalas, A. (2012) *Design Guidelines for a Mobile-Enabled Language Learning System Supporting the Development of ESP Listening Skills*. PhD thesis, Athabasca University.
- Paliwal, S. & Sharma, K. (2009) Future Trend of Education - Mobile Learning Problems and Prospects [Online]. In: *ICAL 2009, 2009*. Available from: <http://crl.du.ac.in/ical09/papers/index_files/ical-113_101_229_2_RV.pdf> [Accessed 17 August 2013].
- Parahoo, K. (2014) *Nursing Research: Principles, Process and Issues*. Palgrave Macmillan.
- Parameswaran, M. & Whinston, A. (2007) Social Computing: An Overview. *Communications of the Association for information systems*, 19, pp. 762–780.
- Paribakht, T. & Wesche, M. (1993) Reading Comprehension and Second Language Development in a Comprehension-Based ESL Program. *TESL Canada Journal*, 11, pp. 9–29.
- Paribakht, T. & Wesche, M. (1997) Vocabulary Enhancement Activities and Reading for Meaning in Second Language Vocabulary Acquisition. In: Coady, J. & Huckin, T. ed., *Second language vocabulary acquisition: A rationale for pedagogy*. Cambridge: Cambridge University Press, pp. 174–200.
- Park, C. & Son, J.-B. (2009) Implementing Computer-Assisted Language Learning in the EFL Classroom: Teachers' Perceptions and Perspectives. *International Journal of Pedagogies and Learning*, 5 (2).
- Parry, K. (1993) Too Many Words: Learning the Vocabulary of an Academic Subject. In: Huckin, T., Haynes, M. & Coady, J. ed., *Second Language Reading and Vocabulary Learning*. Norwood: Ablex.
- Patton, M. (2008) *Utilization-Focused Evaluation*. London: SAGE Publications.

- Pauwels, P. (2012) Vocabulary Materials and Study Strategies at Advanced Level. *The Language Learning Journal*, 40 (1), pp. 47–63.
- Pekrun, R. & Linnenbrink-Garcia, L. (2012) Academic Emotions and Student Engagement. In: Christenson, S. L., Reschly, A. L. & Wylie, C. ed., *Handbook of research on student engagement*. New York: Springer, pp. 259–282.
- Perfetti, C. & Stafura, J. (2014) Word Knowledge in a Theory of Reading Comprehension. *Scientific Studies of Reading*, 18 (1), pp. 22–37.
- Perry, D. (2003) Handheld Computers (PDAs) in Schools. *Becta*.
- Pettit, J. & Kukulska-Hulme, A. (2007) Going with the Grain: Mobile Devices in Practice. *Australasian Journal of Educational Technology*, 23 (1), pp. 17–33.
- Pétursdóttir, M. (2013) *Explicit Teaching of Academic Vocabulary in EFL: Preparing Icelandic Students for Education at University Level*. MA thesis, University of Iceland.
- Pichette, F. (2009) Second Language Anxiety and Distance Language Learning. *Foreign Language Annals*, 42 (1), pp. 77–93.
- Pollara, P. (2011) *Mobile Learning in Higher Education: A Glimpse and a Comparison of Student and Faculty Readiness, Attitudes and Perceptions*. PhD thesis, Duquesne University.
- Prince, P. (1996) Second Language Vocabulary Learning: The Role of Context versus Translations as a Function of Proficiency. *The Modern Language Journal*, 80, pp. 478–493.
- Qian, D. (1996) ESL Vocabulary Acquisition: Contextualization and Decontextualization. *The Canadian Modern Language Review*, 53 (1) November, pp. 120–142.
- Quinn, C. (2000) *MLearning: Mobile, Wireless, in-Your-Pocket Learning* [Online]. LINEZINE. Available from:
<<http://www.linezine.com/2.1/features/cqmmwiyp.htm>> [Accessed 24 May 2013].

- Rahamat, R., Shah, P., Din, R. & Aziz, J. (2011) Students' Readiness and Perceptions towards Using Mobile Technologies for Learning the English Language Literature Component. *The English Teacher*, 10 (1), pp. 69–84.
- Ranalli, J. (2009) Prospects for Developing L2 Students' Effective Use of Vocabulary Learning-Strategies via Web-Based Training. *CALICO Journal*, 27 (1), pp. 161–186.
- Ratner, C. (2002) *Cultural Psychology: Theory and Methods*. New York: Springer.
- Read, J. (2000) *Assessing Vocabulary*. Cambridge: Cambridge University Press.
- Richardson, J. & Lenarcic, J. (2009) The Blended Discourse of SMS Communication in a Mobile Student Administration System [Online]. In: *Same places, different spaces. Proceedings ascilite Auckland 2009*, 2009. Available from: <<http://www.ascilite.org.au/conferences/auckland09/procs/richardson.pdf>>.
- Roberts, C. & Cooke, M. (2009) Authenticity in the Adult ESOL Classroom and beyond. *TESOL Quarterly*, 43 (3), pp. 620–642.
- Rogers, Y., Connelly, K., Hazlewood, W. & Tedesco, L. (2009) Enhancing Learning: A Study of How Mobile Devices Can Facilitate Sensemaking. *Personal and Ubiquitous Computing*, 14 (2) September, pp. 111–124.
- Ross, C. (2013) *The Use of Twitter in the Creation of Educational Professional Learning Opportunities*. MA thesis, Sam Houston State University.
- Rott, S. (1999) The Effect of Exposure Frequency on Intermediate Language Learners' Incidental Vocabulary Acquisition and Retention through Reading. *Studies in Second Language Acquisition*, 21 (4), pp. 589–619.
- Rubin, A. & Babbie, E. (2010) *Research Methods for Social Work*. Cengage Learning.
- Salvia, O. S. (2000) Integrating a Self-Access System in a Language Learning Institution: A Model for Implementation. *Links & Litters*, 7, pp. 95–109.
- Sandars, J. & Haythornthwaite, C. (2007) New Horizons for E-Learning in

- Medical Education: Ecological and Web 2.0 Perspectives. *Medical teacher*, 29 (4) May, pp. 307–310.
- Saran, M. & Seferoglu, G. (2010) Supporting Foreign Language Vocabulary Learning through Multimedia Messages via Mobile Phones. *H. U. Journal of Education*, 38, pp. 252–254.
- Sazant, C. (2014) *Promoting Student Engagement through a Critical Thinking Framework in the Elementary Classroom*. MA thesis, University of Toronto.
- Schaffhauser, B. D. (2011) *The Problem with Classroom Technology? Faculty Can't Use It* [Online]. Campus Technology. Available from: <<https://campustechnology.com/articles/2011/07/28/the-problem-with-classroom-technology-faculty-cant-use-it.aspx>> [Accessed 7 September 2013].
- Schmidt, K. & Brown, D. (2004) A Model to Integrate Online Teaching and Learning Tools into the Classroom. *The Journal of Technology Studies*, 30 (2), pp. 86–92.
- Schmitt, N. (2000) *Vocabulary in Language Teaching*. Cambridge: Cambridge University Press.
- Schmitt, N. (2008) Instructed Second Language Vocabulary Learning. *Language Teaching Research*, 12 (3), pp. 329–363.
- Schmitt, N. (2010a) Key Issues in Teaching and Learning Vocabulary. In: Chacón-Beltrán, R., Abello-Contesse, C. & Torreblanca-López, M. D. M. ed., *Insights into non-native vocabulary teaching and learning*. Salisbury: Multilingual Matters.
- Schmitt, N. (2010b) *Researching Vocabulary: A Vocabulary Research Manual*. London: Palgrave Macmillan.
- Schroeder, A., Minocha, S. & Schneider, C. (2010) The Strengths, Weaknesses, Opportunities and Threats of Using Social Software in Higher and Further Education Teaching and Learning. *Journal of Computer Assisted Learning*, 26 (3) May, pp. 159–174.
- Schulze, M. & Smith, B. (2015) In Theory – We Could Be Better. *CALICO Journal*, 32 (1), pp. i–vi.

- Schwienhorst, K. (2012) *Learner Autonomy and CALL Environments*. London: Routledge.
- Seliaman, M. & Al-Turki, M. (2012) Mobile Learning Adoption in Saudi Arabia. *World Academy of Science, Engineering and Technology*, 69, pp. 391–393.
- Sharples, M. (2000) The Design of Personal Mobile Technologies for Lifelong Learning. *Computers & Education*, 34 (3–4), pp. 177–193.
- Sharples, M., Corlett, D. & Westmancott, O. (2001) A Systems Architecture for Handheld Learning Resources. In: *CAL 2001, 2001*.
- Sharples, M., Graber, R., Harrison, C. & Logan, K. (2009) E-Safety and Web 2.0 for Children Aged 11-16. *Journal of Computer Assisted Learning*, 25 (1), pp. 70–84.
- Sharples, M., Taylor, J. & Vavoula, G. (2007) A Theory of Learning for the Mobile Age. In: Andrews, R. & Haythornthwaite, C. ed., *The Sage handbook of elearning research*. London: SAGE Publications, pp. 221–247.
- Shield, L. & Kukulska-Hulme, A. (2008) Editorial. *ReCALL*, 20 (3), pp. 249–252.
- Sincero, S. M. (2011) *Social Development Theory* [Online]. Explorable.com. Available from: <<https://explorable.com/social-development-theory>> [Accessed 13 November 2014].
- Smith, B. (2004) Computer-Mediated Interaction and Lexical Acquisition. *Studies in Second Language Acquisition*, 26 (365–398), pp. 365–398.
- Sokmen, A. (1997) Current Trends in Teaching Second Language Vocabulary. In: Schmitt, N. & McCarthy, M. ed., *Vocabulary: description, acquisition and pedagogy*. Cambridge: Cambridge University Press.
- Sonbul, S. (2013) Approaches to Second Language Vocabulary Teaching. In: Chapelle, C. A. ed., *The Encyclopedia of Applied Linguistics*. Blackwell Publishing Ltd.
- Sonbul, S. & Schmitt, N. (2009) Direct Teaching of Vocabulary after Reading: Is It Worth the Effort? *ELT Journal*, 64 (3) August, pp. 253–260.
- Song, Y. & Fox, R. (2008) Using PDA for Undergraduate Student Incidental Vocabulary Testing. *ReCALL*, 20 (3), pp. 290–314.

- Stæhr, L. S. (2008) Vocabulary Size and the Skills of Listening, Reading and Writing. *Language Learning Journal*, 36 (2) December, pp. 139–152.
- Stæhr, L. S. (2009) Vocabulary Knowledge and Advanced Listening Comprehension in English as a Foreign Language. *Studies in Second Language Acquisition*, 31 (4) October, pp. 577–607.
- Stander, A. (2011) *An Investigation into the Validity of Mobile Technologies as a Support Structure for First Year Students Studying German as a Foreign Language in a South African Context*. MA thesis, The University of Stellenbosch.
- Stead, G. (2005) Moving Mobile into the Mainstream. In: *The 4th World Conference on Mobile Learning, mLearn 2005, 2005*. Cape Town.
- Sternberg, R. (1987) Most Vocabulary Is Learned from Context. In: McKeown, M. & Curtis, M. ed., *The nature of vocabulary acquisition*. pp. 89–105.
- Stewart, C. (2007) *Interviewing Principles and Practices: Applications and Exercises*. Kendall Hunt Pub Co.
- Stickler, U. & Hampel, R. (2015) Qualitative Research in CALL. *CALICO Journal*, 32 (3), pp. 380–395.
- Stockwell, G. (2007) Vocabulary on the Move: Investigating an Intelligent Mobile Phone-Based Vocabulary Tutor. *Computer Assisted Language Learning*, 20 (4), pp. 365–383.
- Stockwell, G. (2008) Investigating Learner Preparedness for and Usage Patterns of Mobile Learning. *ReCALL*, 20 (3), pp. 253–270.
- Stockwell, G. (2010) Using Mobile Phones for Vocabulary Activities: Examining the Effect of the Platform. *Language Learning & Technology*, 14 (2), pp. 95–110.
- Stockwell, G. (2013) Online Approaches to Learning Vocabulary: Teacher-Centred or Learner-Centred. In: Zou, B. ed., *Explorations of language teaching and learning with computational assistance*. Hershey: IGI Global, pp. 63–74.
- Subtirelu, N. (2013) What Do Learners Want?: A Re-Examination of the Issue of

Learner Preferences Regarding the Use of 'native' Speaker Norms in English Language Teaching. *Language Awareness*, 22 (3), pp. 270–291.

Sun, Y. & Wang, L. (2003) Concordancers in the EFL Classroom: Cognitive Approaches and Collocation Difficulty. *Computer Assisted Language Learning*, 16 (1), pp. 83–94.

Taylor, R. & Gitsaki, C. (2004) Teaching WELL and Loving IT. In: Fotos, S. & Browne, C. ed., *New perspectives on CALL for second language classrooms*. London: Routledge, pp. 131–148.

Teevan, J., Ramage, D. & Morris, M. (2011) #Twittersearch: A Comparison of Microblog Search and Web Search. In: *The fourth ACM international conference on Web search and data mining.*, April 2011. vol. 53. pp. 35–44.

The Social Clinic Editorial Team (2013a) *Saudi Arabia Ranks 7th on Twitter Worldwide* [Online]. Thesocialclinic. Available from: <<http://www.thesocialclinic.com/saudi-arabia-ranks-7th-on-twitter-worldwide/>> [Accessed 28 May 2013].

The Social Clinic Editorial Team (2013b) *Saudi Arabia Ranks First on Twitter Worldwide* [Online]. Thesocialclinic. Available from: <<http://www.thesocialclinic.com/saudi-arabia-ranks-first-on-twitter-worldwide/>> [Accessed 28 May 2013].

The Social Clinic Editorial Team (2013c) *The State of Social Media in Saudi Arabia 2013* [Online]. Thesocialclinic. Available from: <<http://www.thesocialclinic.com/the-state-of-social-media-in-saudi-arabia-2013/>> [Accessed 28 May 2013].

Thorne, S. (2000) Beyond Bounded Activity Systems: Heterogeneous Cultures in Instructional Uses of Persistent Conversation. In: *The Thirty-Third Hawaii International Conference on System Sciences*, 2000.

Traxler, J. (2005) Defining Mobile Learning. In: *IADIS international conference mobile learning*, 2005.

Traxler, J. (2010) Will Student Devices Deliver Innovation, Inclusion, and Transformation? *Journal of the Research Center for Educational*

Technology, 6 (1), pp. 3-15.

Trowler, V. (2010) *Student Engagement Literature Review* [Online]. The Higher Education Academy. Available from:
<<http://www.lancaster.ac.uk/staff/trowler/StudentEngagementLiteratureReview.pdf>> [Accessed 20 November 2015].

Tsubaki, M. (2007) The Involvement Load Hypothesis: An Inquiry into Vocabulary Learning. *Journal of Bunkyo Gakuin University, Department of Foreign Languages and Bunkyo Gakuin College*, 6, pp. 175-184.

Turuk, M. C. (2008) The Relevance and Implications of Vygotsky's Sociocultural Theory in the Second Language Classroom. *ARECLS*, 5, pp. 244-262.

Twitter-Help-Center (2014) *The Basics* [Online]. Twitter.com. Available from:
<<https://support.twitter.com/articles/13920>> [Accessed 12 August 2014].

Valarmathi, K. (2011) Mobile Assisted Language Learning. *Journal of Technology*, 11 (2), pp. 1-8.

Veletsianos, G. (2012) Higher Education Scholars' Participation and Practices on Twitter. *Journal of Computer Assisted Learning*, 28 (4) August, pp. 336-349.

Veletsianos, G. & Navarrete, C. (2012) Online Social Networks as Formal Learning Environments: Learner Experiences and Activities. *The International Review of Research in Open and Distance Learning*, 13 (144-166).

Verspoor, M. & Schmitt, N. (2013) Language and the Lexicon in SLA. In: Robinson, P. ed., *The Routledge Encyclopedia of Second Language Acquisition*. London: Routledge, pp. 377-384.

Viberg, O. & Grönlund, Å. (2012) Mobile Assisted Language Learning: A Literature Review. In: *The 11th World Conference on Mobile and Contextual Learning, mLearn 2012, 2012*.

Vogt, W., Gardner, D. & Haeffele, L. (2012) *When to Use What Research Design*. London: The Guilford Press.

Vygotsky, L. (1978) *Mind in Society: The Development of Higher Psychological*

Processes. Harvard University Press.

- Wallace, R. (2003) Online Learning in Higher Education: A Review of Research on Interactions among Teachers and Students. *Education, communication & Infomation*, 3 (2), pp. 241–280.
- Waring, R. (2002a) Basic Principles and Practice in Vocabulary Instruction. *The Language Teacher*, 26 (11–13).
- Waring, R. (2002b) Scales of Vocabulary Knowledge in Second Language Vocabulary Assessment. *Kiyo, the occasional papers of Notre Dame Seishin University* [Online], (March). Available from:
<<http://www.robwaring.org/papers/various/scales.htm>> [Accessed 28 June 2015].
- Waring, R. & Nation, P. (2004) Second Language Reading and Incidental Vocabulary Learning. *Angles on the English speaking world*, 4, pp. 97–110.
- Waring, R. & Takaki., M. (2003) At What Rate Do Learners Learn and Retain New Vocabulary from Reading a Graded Reader? *Reading in a Foreign Language*, 15 (2), pp. 130–63.
- Warschauer, M. (1995) *E-Mail for English Teaching: Bringing the Internet and Computer Learning Networks into the Language Classroom*. TESOL.
- Warschauer, M. (1997) Computer-Mediated Collaborative Learning: Theory and Practice. *The Modern Language Journal*, (iv), pp. 470–481.
- Warschauer, M., Shetzer, H. & Meloni, C. (2000) *Internet for English Teaching*. TESOL.
- Webb, S. (2005) Receptive and Productive Voacabulary Learning: The Effects of Reading and Writing on Word Knowledge. *Studies in Second Language Acquisition*, 27, pp. 33–52.
- Webb, S. (2008) The Effects of Context on Incidental Vocabulary Learning. *Reading in a Foreign Language*, 20 (2), pp. 232–245.
- Welch, B. & Bonnan-White, J. (2012) Twittering to Increase Student Engagement in the University Classroom. *Knowledge Management & E-Learning: An International Journal*, 4 (3), pp. 325–345.

- Wesche, M. & Paribakht, T. (1996) Assessing Second Language Vocabulary Knowledge: Depth versus Breadth. *The Canadian Modern Language Review*, 53, pp. 13–40.
- Wilkins, D. (1972) *Linguistics in Language Teaching*. London: Edward Arnold.
- Wilkinson, D. & Birmingham, P. (2003) *Using Research Instruments: A Guide for Researchers*. Psychology Press.
- Woo, M., Chu, S., Ho, A. & Li, X. (2011) Using a Wiki to Scaffold Primary-School Students' Collaborative Writing. *Educational Technology and Society*, 14 (1), pp. 43–54.
- Wood, D., Bruner, J. & Ross, G. (1976) The Role of Tutoring in Problem Solving. *Journal of Child Psychology and Psychiatry*, 17 (2), pp. 89–100.
- Woodill, G. (2011) *The Mobile Learning Edge: Tools and Technologies for Developing Your Teams*. London: McGraw Hill.
- Wu, Y. (2016) Factors Impacting Students' Online Learning Experience in a Learner-Centred Course. *Journal of Computer Assisted Learning*, 32 (5), pp. 416–429.
- Xu, X. (2010) An Empirical Study on the Effect of Task on L2 Incidental Vocabulary Acquisition through Reading. *Asian Social Science*, 6 (7), pp. 126–131.
- Yang, S.-H. (2014) *Wireless Sensor Networks*. Signals and Communication Technology. London: Springer.
- Yates, K., Birks, M., Woods, C. & Hitchins, M. (2015) #Learning: The Use of Back Channel Technology in Multi-Campus Nursing Education. *Nurse Education Today*, 35 (9), pp. 65–69.
- Yin, R. (2011) *Qualitative Research from Start to Finish*. London: The Guilford Press.
- Yu, A., Tian, S., Vogel, D. & Chi-Wai Kwok, R. (2010) Can Learning Be Virtually Boosted? An Investigation of Online Social Networking Impacts. *Computers and Education*, 55, pp. 1494–1503.
- Yu, W.-K., Sun, Y.-C. & Chang, Y.-J. (2010) When Technology Speaks Language:

An Evaluation of Course Management Systems Used in a Language Learning Context. *ReCALL*, 22 (3), pp. 332–355.

Zhao, D. & Rosson, M. B. (2009) How and Why People Twitter: The Role That Micro-Blogging Plays in Informal Communication at Work. In: *The ACM 2009 International Conference on Supporting Group Work, 2009*. pp. 243–252.

Zhao, W., Jiang, J., Weng, J., He, J. & Lim, E. (2011) Comparing Twitter and Traditional Media Using. In: *33rd European conference on IR research, 2011*. Dublin, pp. 338–349.

Zimmerman, C. (1997) Do Reading and Interactive Vocabulary Instruction Make a Difference? An Empirical Study. *Tesol Quarterly*, 31, pp. 121–140.

Zwiers, J. (2014) *Building Academic Language: Meeting Common Core Standards across Disciplines, Grades 5-12*. San Francisco: John Wiley & Sons.

Appendix A Pre-treatment Questionnaire

Q1 Browser Meta Info

Browser
Version
Operating System
Screen Resolution
Flash Version
Java Support
User Agent

Q2 Please provide the following information

Name
University number
Section/Group
Year of study
Mobile number
Email
Nationality

Q3 Please choose your age group

- ☐ 18-20
- ☐ 21-23
- ☐ 24-26
- ☐ 27-29
- ☐ 30 or more

Q4 I have studied English before joining the university for

- ☐ 6 years - 1st level of intermediate school
- ☐ 7 years - 6th level of primary school
- ☐ 8 years - 5th level of primary school
- ☐ 9 years - 4th level of primary school
- ☐ more than 9 years, please specify, _____ years. _____

Q5 Please answer the following questions by choosing 'Yes' or 'No'

	Yes	No
Do you own a smart phone (iPhone, android devices, blackberry or windows phone)?	<input type="radio"/>	<input type="radio"/>
Do you own a tablet (iPad, Nexus 7, Galaxy note, other tablets)?	<input type="radio"/>	<input type="radio"/>
Is the mobile device you own connected to the internet?	<input type="radio"/>	<input type="radio"/>
Do you have Twitter account?	<input type="radio"/>	<input type="radio"/>

Answer If Please answer the following questions by choosing 'Yes' or 'No' Do you have Twitter account?
- Yes (2) Is Selected

Q6 Have you used twitter for learning in a previous course?

- ☐ Yes
- ☐ No

Answer If (A) Please read the following questions and then choose the best answer for you 1- Do you own a smart phone (iPhone, android devices, blackberry or windows phone)? - Yes (2) Is Selected

Q7 Please choose the type(s) of your smart phone/s from the list below. You can choose more than one if you need.

- ☐ iPhone
- ☐ Galaxy
- ☐ Nexus
- ☐ Blackberry
- ☐ Windows phone
- ☐ Other types. Please write down the type of your smart phone in the provided space _____

Q8 For how long have you been using smartphones?

- ☐ Less than 1 year, please specify in the provided space _____
- ☐ 1 year
- ☐ 2 years
- ☐ 3 years
- ☐ more than 3 years, please specify in the provided space _____

Answer If (A) Please read the following questions and then choose the best answer for you 2- Do you own a tablet (iPad, Nexus 7, Galaxy note, other tablets)? - Yes (2) Is Selected

Q9 Please choose the type(s) of your tablet/s from the list below. You can choose more than one if you need.

- ☐ iPad
- ☐ Galaxy Tab or Galaxy Note
- ☐ Nexus 7 or Nexus 10
- ☐ Surface
- ☐ Other types. Please write down the type of your tablet in the provided space _____

Answer If (A) Please answer the following questions by choosing 'yes' or 'no' Do you own a tablet (iPad, Nexus 7, Galaxy note, other tablets)? - Yes (2) Is Selected

Q10 for how long have you been using tablets?

- ☐ less than 1 year, please specify in the provided space _____
- ☐ 1 year
- ☐ 2 years
- ☐ 3 years
- ☐ more than 3 years, please specify in the provided space _____

Q11 for how many hours a day do you use your mobile device?

- ☐ Less than one hour, please specify in the provided space _____
- ☐ 1 - 2 hours
- ☐ 3 - 4 hours
- ☐ 5 hours
- ☐ more than 5 hours, please specify in the provided space _____

Q12 I consider my knowledge about using mobile devices in general to be

- ☐ Very low
- ☐ Low
- ☐ Average
- ☐ Advanced
- ☐ Very advanced

Answer If (A) Please read the following questions and then choose the best answer for you 6- Do you have Twitter account? - Yes (2) Is Selected

Q13 Please write down your name and twitter username in the provided spaces.

Name

Twitter username

Answer If (A) Please read the following questions and then choose the best answer for you 6- Do you have Twitter account? - No (1) Is Selected

Q14 Would you be happy to create a twitter account to participate in this study?

- ☐ Yes
- ☐ No - (End of the questionnaire)

If No (1) Is Selected, Then Skip To End of Survey

Q15 Please read the following statements carefully and then choose the one of the given options

	Never	Rarely	Sometimes	Often	Always
I make sure to have internet connection in my mobile device most of the time.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I use the university WI-FI to get connected to the internet when I am on campus.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I use my cellular data to get connected to the internet when there is no available WI-FI connection.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I use my mobile device for social networking (Facebook, Twitter, What's App).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I use my computer to log on to my Twitter account.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q16 Please read the following statement carefully and then complete it by choosing from the given options (you can choose more than one option) I have used my mobile device

- ☐ for informal learning.
- ☐ for learning in a previous course (in school or at the university).
- ☐ to take class notes.
- ☐ to take photos of learning materials such as the whiteboard in the class.
- ☐ to search course-related information.
- ☐ to do my assignments.
- ☐ to engage in course-related tasks.
- ☐ other, please specify in the provided space _____

Q17 Please read the following statement carefully and then complete it by choosing from the given options (you can choose more than one option) I rely on my mobile device

- ☐ to check my emails
- ☐ to get organised (calendar, reminders, assignments due dates, etc.)
- ☐ to search for information.
- ☐ to play games
- ☐ to search the meaning/s of any new word I come across.
- ☐ to search course-related information
- ☐ to socialize with my classmates (Twitter, Facebook, Whats app, etc.)
- ☐ Other, please specify in the provided space _____

Q18 Please read the following statements carefully and then choose the option which best describes your feeling.

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
I think vocabulary is an important part of language learning.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I enjoy learning vocabulary.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Learning vocabulary is easy.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I think It is my responsibility to deal with the new words I encounter while studying.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I expect my teacher to explain any new word I encounter in the textbook.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I think it is important to try to improve my vocabulary knowledge independently (i.e. outside of class).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I prefer to ask my teacher to explain any new word I encounter.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I think it is important to use my new English vocabulary (i.e. with classmates and/or online).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I prefer to ask my classmate(s) to explain any new word I encounter.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel happy when I figure out a new word.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I love telling others about new words that I have learned.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I prefer to use the dictionary to learn any new word I encounter.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q19 Do you want to add any comment? Please use the provided space.

Q20 Please read the following statements carefully and then choose the option which best describes your feeling.

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
I feel comfortable using my mobile device in general.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Learning through my mobile device does not make me feel nervous.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It is convenient to use my mobile device for learning while on the go.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Using mobile devices to learn is more flexible way of learning because it can be done anywhere, anytime.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Using mobile devices to learn improves communication between students and teachers.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Using mobile devices to learn can be an effective way of learning because it gives immediate support.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It is interesting to engage in course-related activities on my mobile device.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
What I learn through my mobile device helps me in the regular classroom.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It is easy to do course-related tasks on my mobile device.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In learning, I rely on my mobile device more than I do on my computer.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mobile devices can be used in many ways to learn English vocabulary (the internet, mobile apps, dictionaries, etc.).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel at ease when I learn English vocabulary through my mobile device.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I think using mobile devices helps to improve my English vocabulary.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mobile devices make English vocabulary learning much easier.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I need more use of mobile devices to support vocabulary learning in my English courses.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Learning English through mobile devices is more interesting than the traditional way of learning.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel excited to learn English vocabulary by using mobile devices.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am interested in learning English vocabulary through mobile devices.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I prefer NOT to use my mobile device for any course-related issues.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q21 Do you want to add any comment? Please use the provided space.

Q22 Please read the following statements carefully and then choose the option which best describes your feeling.

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
I know how to use Twitter.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I usually use my mobile device to log on to my Twitter account.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I follow some people to learn from what they tweet.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel comfortable using Twitter in general.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Using Twitter is enjoyable to me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I use Twitter because I can find information quickly.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I find using Twitter easy.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Twitter can be accessed any time, anywhere.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I interact in Twitter, I feel that there is a sense of human interaction.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I use Twitter because it allows me to exchange information.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
To find information or solution to any problem I have, I tend to search in Twitter first.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Using Twitter is something I do as part of my daily routine.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that there is a social sense with those I interact with in Twitter.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Learning through Twitter does NOT make me feel nervous.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I think Twitter can be used for learning.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It is interesting to use Twitter to share information I learnt in my classes.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have used Twitter to discuss course-related issues with my classmates.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Using Twitter improves communication between students and teachers.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It is easy to do course-related tasks on Twitter.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have tried using Twitter to learn vocabulary.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I think Twitter can help me to learn English vocabulary.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Using Twitter to learn English vocabulary does NOT scare me at all.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Twitter makes English vocabulary learning much easier.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I think Twitter can help me to practice English vocabulary.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I want more use of Twitter to support vocabulary learning in my English courses.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Learning English vocabulary through Twitter bothers me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Twitter is a useful tool for learning English vocabulary.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel excited to learn English vocabulary by using Twitter.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel at ease using Twitter to learn English vocabulary.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am interested in using Twitter for vocabulary learning.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I prefer Not to use Twitter for any course-related issues.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q23 If you have different reasons for using Twitter other than the ones mentioned above, please feel free to write them down in the provided space.

Q24 Do you want to add any comment? Please use the provided space.

Q25 Please complete the following statement by choosing one of the given options

I log on to my Twitter account

- ☐ once a day
- ☐ 2 - 3 times a day
- ☐ once a week
- ☐ 2 - 3 times a week
- ☐ other, please specify in the provided space _____

Q26 Please complete the following statement by choosing one of the given options

Each time I check my Twitter account, I usually spend

- ☐ less than 1 hour, please specify the number of minutes in the provided space _____
- ☐ 1 - 2 hours
- ☐ 3 - 4 hours
- ☐ 5 hours
- ☐ more than 5 hours, please specify the number of hours in the provided space _____

Q27 Please complete the following statement by choosing one of the given options

in Twitter, I post

- ☐ no tweets at all
- ☐ once a day
- ☐ 2 - 5 tweets a day
- ☐ 6 - 9 tweets a day
- ☐ 10 tweets a day
- ☐ once a week
- ☐ once a month
- ☐ other, please specify in the provided space _____

Q28 Would you like to add any comments and/or suggestions? Please feel free to write in the provided space.

Appendix B Post-treatment Questionnaire

Q1 Please provide the following information

Name
University number
GPA

Q2 Please read the following statements carefully and then choose the option which best describes your feeling.

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
I think vocabulary is an important part of language learning.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I enjoy learning vocabulary.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Learning vocabulary is easy.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I think It is my responsibility to deal with the new words I encounter while studying.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I expect my teacher to explain any new word I encounter in the textbook.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I think it is important to try to improve my vocabulary knowledge independently (i.e. outside of class).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I prefer to ask my teacher to explain any new word I encounter.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I think it is important to use my new English vocabulary (i.e. with classmates and/or online).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I prefer to ask my classmate(s) to explain any new word I encounter.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel happy when I figure out a new word.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I love telling others about new words that I have learned.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I prefer to use the dictionary to learn any new word I encounter.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q3 Based on your experience about using Twitter for vocabulary learning and practice, please read the following statements carefully and then choose the option which best describes your feeling.

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
I know how to use Twitter.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I usually use my mobile device to log on to my Twitter account.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel comfortable using Twitter in general.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Using Twitter is enjoyable to me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I use Twitter because I can find information quickly.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I find using Twitter easy.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Twitter can be accessed any time, anywhere.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I interact in Twitter, I feel that there is a sense of human interaction.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that there is a social sense with those I interact with in Twitter.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Learning through Twitter does NOT make me feel nervous.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I think Twitter can be used for learning.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have used Twitter to discuss course-related issues with my classmates.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Using Twitter improves communication between students and teachers.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It is easy to do course-related tasks on Twitter.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I think Twitter helped me to learn English vocabulary.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Using Twitter to learn English vocabulary does NOT scare me at all.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Twitter makes English vocabulary learning much easier.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I think Twitter helped me to practice English vocabulary.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I want more use of Twitter to support vocabulary learning in my English courses.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Learning English vocabulary through Twitter bothers me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Twitter is a useful tool for learning English vocabulary.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel at ease using Twitter to learn English vocabulary.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I prefer Not to use Twitter for any course-related issues.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q4 Based on your experience about using Twitter for vocabulary learning and practice, please read the following statements carefully and then choose the option which best describes your feeling.

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
I think that using Twitter to learn and practice vocabulary is effective.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I think that using Twitter for vocabulary learning and practice makes me meet the words I am learning more times than usual.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Reading the words, meanings and examples my classmates had shared in twitter helped me to correct my understanding for some words.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I think that using Twitter to learn and practice English vocabulary outside the classroom helps me remember the words better.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel relaxed to learn and practice vocabulary in Twitter more than in the classroom.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that using Twitter to learn and practice vocabulary help me to have better understanding in the classroom.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that using Twitter to learn and practice vocabulary encouraged me to participate in the classroom.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I think that using twitter helps me to use the words I am learning more than in the classroom.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Using Twitter to learn and practice vocabulary with my classmates helps me to learn better than learning individually.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I prefer to learn and practice vocabulary with my classmates in the classroom than in Twitter.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel comfortable learning with other classmates in Twitter.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Searching the words I am learning in Twitter and reading people's tweets was useful for me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Twitter helped me to reach many English tweets and learn from them.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel encouraged when somebody favorite and/or re-tweet my tweet/s.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I favorite and/or re-tweet others' tweets when they help me to learn or correct my understanding.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The hash-tag feature in Twitter makes tracking my classmates and teacher's tweets easier.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Using one hash-tag to post and read my classmates was useful.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I will continue using Twitter to learn and practice vocabulary	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q5 Do you want to add any comment? Please use the provided space.

Q6 Please read the following statements carefully and then choose the option which best describes your feeling.

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Learning through my mobile device does not make me feel nervous.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It is convenient to use my mobile device for learning while on the go.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Using mobile devices to learn is more flexible way of learning because it can be done anywhere, anytime.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Using mobile devices to learn improves communication between students and teachers.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Using mobile devices to learn can be an effective way of learning because it gives immediate support.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It is interesting to engage in course-related activities on my mobile device.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
What I learn through my mobile device helps me in the regular classroom.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It is easy to do course-related tasks on my mobile device.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mobile devices can be used in many ways to learn English vocabulary (the internet, mobile apps, dictionaries, etc.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel at ease when I learn English vocabulary through my mobile device.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I think using mobile devices helps to improve my English vocabulary.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mobile devices make English vocabulary learning much easier.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I need more use of mobile devices to support vocabulary learning in my English courses.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Learning English through mobile devices is more interesting than the traditional way of learning.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel excited to learn English vocabulary by using mobile devices.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am interested in learning English vocabulary through mobile devices.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I prefer NOT to use my mobile device for any course-related issues.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q7 Would you like to add any comments and/or suggestions? Please feel free to write in the provided space.

Appendix C The Vocabulary Knowledge Scale

فضلاً قم بقراءة الكلمات في الجدول أدناه ثم اختر أحد الخيارات من 1 إلى 5

- 1 - لا أذكر أنني شاهدت الكلمة من قبل.
- 1 - شاهدت الكلمة من قبل لكنني لا أعرف معناها.
- 2 - شاهدت الكلمة من قبل و أعتقد أنها تعني ____ (أكتب ترجمتها أو مرادفها أمامها في الجدول).
- 3 - أعرف هذه الكلمة و هي تعني ____ (أكتب ترجمتها أو مرادفها أمامها في الجدول).
- 4 - أستطيع استخدام هذه الكلمة في جملة (أكتب ترجمتها أو مرادفها أمامها في الجدول مع جملة).

ملاحظة هامة:

- ❖ عند اختيارك الاجابة رقم ٣ أو ٤ فينبغي كتابة ترجمة الكلمة أو مرادفها في الخانة المخصصة أمام كل كلمة في الجدول.
- ❖ عند اختيارك الاجابة رقم ٥ فينبغي كتابة ترجمة الكلمة أو مرادفها مع جملة في الخانة المخصصة أمام كل كلمة في الجدول.

Words	Scale No.					3	4	5
						Meaning/synonym/sentence		
areas	1	2	3	4	5			
culture	1	2	3	4	5			
designers	1	2	3	4	5			
economy	1	2	3	4	5			
expert	1	2	3	4	5			
irrational	1	2	3	4	5			
frequently	1	2	3	4	5			
survive	1	2	3	4	5			
transit	1	2	3	4	5			
replace	1	2	3	4	5			

Appendix D Interview

❖ Effectiveness of and attitudes towards using Twitter for L2 vocabulary learning:

1. Have you tried using Twitter for vocabulary learning in this course (Reading II)?
2. Would you please talk about your experience with using Twitter for vocabulary learning and use?
3. What did you like or dislike about using Twitter for vocabulary learning?
4. How effective or not effective is using Twitter for L2 vocabulary learning and use?
5. After using Twitter for vocabulary learning, what did you find most useful/not useful?
6. How do you feel about working with your classmates to learn and use vocabulary in Twitter?
7. Did you try to search any word you are learning in Twitter to see how others have used it in their tweets?
 - a. Was it useful or not useful?
8. When you searched for the words you were learning, how easy or difficult did you find reading/understanding people's tweets in Twitter?
9. Did people's tweets help or not help you to learn the meanings of the words?
10. Can you say some words you feel that Twitter helped you to learn and remember them?
11. Have using Twitter for vocabulary learning and practice affect your understanding and/or participation in the classroom or not?

12. What about your exam? Did it affect your performance in the exam or not?
13. Do you think you will or will not use Twitter to get engaged with any new word you want to learn in the future?
14. Can you think of any better technology that can be used for vocabulary learning?
15. Did using the words you are learning in Twitter help you to learn vocabulary better?
16. Did using the words you are learning in Twitter help to remember the words better?

❖ **Mobile Learning:**

17. How useful or not useful have you found using your mobile device for vocabulary learning?

❖ **Concluding question:**

18. Have we missed anything? Please feel free to add anything you want to say?

Appendix E Weekly Report

Week #

Name:

Please tick in front of each statement to indicate your type of participation in the course hashtag during the week.

_____ I Tweeted in the course hashtag.

_____ I read my classmates Tweets.

_____ I did not Tweets in the course hashtag.

_____ I did not read my classmates in the course hashtag.

Would you like to write or add anything? Please use the provided space below.

.....

.....

.....

.....

.....

.....

Appendix F Arabic excerpts in a more formal form of Arabic language

5.2.4 Participants' Attitudes

م ٢ - مق: من ناحية تعلم المفردات فإن التويتر مفيد. تتعلم سريعاً وفي نفس الوقت أفضل من الكتاب. يعني لا تشعر أنه ممل، في نفس الوقت تشعر أنك مستمتع وتتعلم وتصبح الكلمة في ذاكرتي ومن الصعب أن أنساها.

م ٦ - مق: برنامج تويتر أكثر راحة علي مثلاً وأسهل علي بشكل عام علي الجوال مثلاً، لتوفر النت في أي مكان ، لكن إذا كان بالطريقة القديمة التي تعلمنا فيها الكلمات ... لا في الفصل الأول أقصد. لأنه في الفصل الأول لم تكن هذه الطريقة موجودة للتعلم عن طريق النقال. وكان تركيزنا على الكتاب و هذا الشيء متعب. ويمكن أن تكون الاستفادة منه أقل، لأنه يلزم أن تكون في البيت و أن يكون الكتاب معاك. و من الصعب أن تحمل الكتاب معاك في أي مكان لكن حمل الجوال يمكن أن يكون أسهل و أحسن من الكتاب و تستفيد منه أكثر من الكتاب بكثير.

م ٢٢ - مق: في هذا الوقت مفيد. لأن أغلب الطلاب لديهم جوال. وكل واحد مثلاً منهم لديه حساب في تويتر وهكذا. و يستطيع حتى و هو في الجامعة أو في البيت أو في أي مكان يستطيع أن يغرد أو يكتب أي شيء و يبحث عنه.

م ٣٣ - مق: تويتر أفادني في أنني أصبحت أتعلم من أصحابي، يعني أصبحت معظم وقتي مثلاً أحياناً أخصص يومين أو ثلاثة أيام في الأسبوع أدخل على تويتر أرى الهاشتاق أو أرى أصحابي ماذا يكتبون وهكذا.

م ١٨ - مق: شيء جيد لأن بعض كلمات التعاريف حقها مثلاً لا أجدها حتى في الموقع هذا الذي قلت عنه. فأرى الأشياء التي يرسلونها العيال وأجد التعريف الذي أريده وأعمل له ريتويت حتى يطالع في البروفایل لدي ويصبح التعريف موجود عندي.

م ٢٢ - مق: مع الاستمرار مللت من الكتابة و هي (التي جعلتني أشعر بالملل).

م ٣٥ - مق: لا أدري، شعرت بالملل نوعاً ما.. لأنني قلت لك أنا لا أستعمل تويتر أصلاً قبلها، فالذي يستعمل تويتر قبلها يمكن أن تعجبهم هذه الطريقة هذا أول شيء. ثاني شيء لا أفضل هذه الطريقة يعني مثلاً لو في وسط المحاضرة، في وسط القطعة الدكتور يقول لنا معناها و خلاص، لا أحب يعني أدخل وأمسك الأجهزة و أدور بنفسني وهكذا وأقرأ الهاشتاق ولا أدري ماذا لا أحب.

5.2.5 Key features of the adopted mobile microblogging tool in relation to learning

5.2.5.1 Ease of use and access

م ٣٣ - مق: طريقة الفيس بوك لم تعجبني لأن (friends) لا أدري كيف هي طريقة استخدامه لأنها جداً متعبة، تعلمت من تويتر كل شيء أكثر من الفيس بوك رغم إن الفيس بوك دخلت فيه قبل.

م ٢٢ - مق: هو حلو يعني وسهل. تستطيع أن تدخل و كل واحد معه جواله ويستطيع أن يدخل و يغرد ويبحث وهكذا.

م ٣٠ - مق: من خلال برنامج تويتر وأنت في البيت ترى كل شيء عندك حتى و أنت مشغول، بعد شغلك تفتح الجوال تطلعها مباشرة أحسن و أسهل بكثير من قبل كنت أفتح الكتاب أو أدخل على اللاب توب وأفتح نت.

م ١٨ - مق: صار زي المرجع السريع يعني بعدين يعني على طول أطلع جوالي و ألقى الكلمات كلها موجودة عندي بدل ما أروح أبحث عن كل كلمة وممكن مسجلها في الكتاب أو لا، فيصير خلاص أدخل على تويتر عندي في الجوال على طول وألقى الكلمات كلها موجودة عندي.

مق - م ١٨: أصبح مثل المرجع السريع يعني بعد ذلك مثلاً مباشرة أطلع جوالي و أجد الكلمات كلها موجودة عندي بدل من الذهاب والبحث عن كل كلمة ومن الممكن أن أكون قد سجلتها في الكتاب أو لا، فيصير خلاص أدخل على تويتر عندي في الجوال مباشرة وأجد الكلمات كلها موجودة عندي.

م ٣٢ - تق: تعلم المفردات باستخدام تويتر شيء جميل ولكنه متعب باستخدام الجوال الذكية فهل بإمكانني استخدام القواميس التي خارج الجوال؟

إس.ب - م ٣٢: في نظري استخدام الأجهزة اللوحية في تعلم المفردات أفضل بكثير من الجوال في مختلف النواحي مثل كبر حجم الشاشة.

5.2.5.2 Learning anywhere anytime

م ١٧ - مق: مثل ماقلت لك في أي مكان وفي أي وقت متى ماكنت فاضي شيء حلو ساعدني كثير.

م ١٩ - مق: هذا الشيء مريح و جيد مثلاً لما تؤدي واجبك أو شيء في جوالك هذا الشيء جداً مريح أحياناً أكون في خط السفر وأفعله.

م ٦ - مق: في الفصل الماضي لم تكن هناك طريقة التعلم بالجوال مثلاً كان تركيزنا على الكتاب وهذا شيء متعب يمكن أن تكون الاستفادة منه أقل، لا بد أن تكون في البيت ولا بد أن يكون الكتاب معك صعب تحمل الكتاب معك في أي مكان لكن حمل الجوال قد يكون أحسن وأسهل من الكتاب تستفيد منه أكثر من الكتاب بكثير.

م ١٠ - مق: اكتشفت شيئاً ممتازاً بالعكس أتمنى مثلاً كل فصل يكون كذلك، لأنني أستخدم أكثر، مثلاً لو تتعلم كلمات في الفصل تطلع برة تنسأهم، أما هنا في أي وقت تدخل على تويتر في أي وقت ممكن تدخل على الهاشتاق و ترى الكلمة أكثر من مرة.

م ٤ - مج: تويتر ساعدني كنت أواجه صعوبة في تحديد وقت للمذاكرة لكن مع تويتر أستطيع أراجع الكلمات أو أبحث عنها في أي وقت خارج البيت أو داخله أو في أي مكان هذا الذي ساعدني في تويتر.

م ١ - مج: أو حتى عندما تخرج من المحاضرة تستطيع أن تراجع الكلمات و ترى يعني تويتر معك مثلاً تويتر في أي وقت عندك ليس له وقت حتى ينتهي.

م ٦ - مق: بكل أمانة الفائدة بالطريقة هذه أفضل بكثير من الاعتماد على الكتاب بشكل كامل. أقصد أصلاً في الغالب بالذات في السعودية هنا ٧٠ - ٨٠% يذهب من وقت الطالب على الجوال. فممكن يتذكر تويتر وهكذا فيدخل ويستفيد، لكن الكتاب مثلاً ممكن يمر شهر لا يفتح الطالب الكتاب فلن يستفيد، فالجوال دائماً في يده يستفيد في أي وقت. إذا مثلاً الدكتور طلب منك تتعلم عدة كلمات حدد لك الكلمات من الكتاب ممكن ما تفتح الكتاب في البيت وما تستفيد لكن الجوال معك ٢٤ ساعة في يدك مثلاً شيء أكيد سوف تتعلم.

5.2.5.3 Finding information instantly

م ٩ - مق: لأنه نكتب الكلمة المطلوبة وتبحث عنها وتجدها مستخدمة في جمل وأمثلة عند الغير طبعاً ليس شرطاً الطلاب.

م ٢٦ - مق: لأنه كنت أقرأ تغريدة تغريدتين ثلاثاً أربعة تغريدات مكتوبة في سياقات مختلفة و أغلب التغريدات يكون مضاف معها صورة أو معها شيء فهذه تساعد جداً كثير في تعلم معنى الكلمة ويثبت المعنى كمان في العقل.

م ٨ - مق: أفود شيء وجدته إنه حتى لو كلمات أعرفها وكلمات لا أعرفها أبحث عنها وعن الجمل و الكلمة التي أعرفها والتي لا أعرفها كلها أبحث عنها وعن الجمل في تويتر. فأنا أعرف الكلمة كيف يستخدمها الأمريكان، فكيف يستخدمون الكلمة ويكون معناها عندهم وهكذا.

م ٧ - مج: في الفصل لن تجد مكاناً لتبحث فيه عن الكلمة أو تقرأ لناس يكتبون عن هذه الكلمة ولا تستطيع أن تصل لأشخاص آخرين.

م ٨ - مق: لا، أنا أقول تويتر؛ لأن تويتر فيه خاصية البحث، مثلاً تبحث عن ناس خارج اللغة خارج زملائي في الدول الأجنبية، كيف يستخدمون الكلمة هذه فهذا يعني شيء ضروري ولا يوفره البريد الإلكتروني.

م ٨ - مق: في قولك لو بحثت فيه ستجد مقالة لكن في تويتر يبسطها لك في ١٤٠ حرف تغريدات قصيرة. مثلاً هؤلاء أشخاص عاديون الذين يكتبون في تويتر أشخاص عاديون أو طلاب عاديون شيء عادي يعني يكون أقرب لأن تفهم هذه الأشياء.

5.2.5.4 Short to the point

م ٢٨ - مق: التغريدة أفضل لأنه لن ترى تغريدة واحدة ستري تغريدات فتأخذ فكرة هذا وهذا و يكون بصورة مختصرة أيضاً.

م ٢٦ - مق: مثلاً لدي كلمة صعبة لم أعرفها و بحثت عنها في تويتر، ساجد ١٥ مثال و أقرأ ١٥ مثال في دقيقتين أو ثلاث دقائق. المثال الأول لا أستطيع أن أفهمه المثال الثاني كذلك لا أفهمه المثال الثالث سيكون صعباً المثال الرابع الخامس كذلك أكيد ساجد مثال أستطيع أن أفهم منه بينما لو كان صفحة صفحة صفحة سوف أقرأ الصفحة الأولى ونص الصفحة الثانية ثم أمل لا أشعر أنني استفدت وسوف أغلقه و أنصرف.

م ٢٩ - مق: حتى في البلاك بيري أو في الواتس آب أو في البريد الإلكتروني، الطويل معروف لا يقرأ صحيح (نعم) لا أحد يحب أن يقرأ الرسالة الطويلة.

م ٣٠ - مق: أسرع للمخ تقرأ هكذا بسرعة أوعني مثلاً بالعامي أخذ الزبدة.

م ١٤ - مق: والله بالنسبة للذي قلته الأمثلة الطويلة بالنسبة للشخص القادر على الفهم، بينما التغريدات هذه للطلاب الذين يكونوا على قد حالهم.

م ١٩ - مق: هي بتشوش عليك شوي القصيرة أفضل تفهمها و خلاص، عندما أدخل مثلاً في خمسة أسطر ستة أسطر الكلمة هذه أنا لم أفهمها إلى الآن فكيف أستطيع أن أفهم من الكلمات الثانية المساعدة إذا كانت الكلمات المساعدة صعبة، أيضاً يعني راح تضيق.

م ١٦ - مج: القصيرة: لأنه ربما لدينا نقص (في ال interest) (الاهتمام) في التعلم عموماً مثلاً نحن نفضل الشيء القصير خلاص تنتهي منها ثم تنصرف مثلاً لو كان لدينا (الاهتمام) (interest) إذا استطعت أن تقرأ صفحة سوف تقرأها.

م ٣٣ - مق: أحياناً عندما تكون مثلاً تريد مجمل، تريد (ال conclusion) أن تجدها في المعنى كاملاً في تغريدة قصيرة، إذا كنت تريد أن تفهم مثلاً تريد أن تقرأ كثير يبغى لك كلام.

م ٣٢ - مج: على حسب ظروف الكلمة نفسها مثل ما قلت، أحياناً كلمات سهلة تعرف من معناها مباشرة تستوعب الجملة مباشرة، و أحياناً في بعض الكلمات قد ما تضع تحتاج لها تفصيل فتطول.

م ٢٩ - مق: أتوقع أن الطويلة لا لا. لا أستطيع أن أقرأ لكل واحد أنا يمكن ولا حتى وحدة لكن أنا عندما أكتب أحب أن أخذ راحتي.

م ٣٣ - مق: في الكتابة تتعني جداً. لأن الهاشتاق يحتاج كلمات والاسم يحتاج له كلمات فأعاني أقصد حتى حينما أكتب مثلاً الكلمة ومعناها ومثال ومعناه بالإنجليزي تأخذ مني أشياء كثيرة.

م ٣٢ - مج: المشكلة إنك محصور في ١٤٠ حرف، (مثال) كلمة و تعريفها يمكن حول ٧٠ أو ٦٠ حرف تعرف الكلمة أو الجملة، فيمكن يكون المجال ضيق قليلاً إذا كنت تريد الكلمة مع التعريف بالإنجليزي، لكن إذا كنت تريد الكلمة مع ترجمتها مباشر بالعربي ستكون أفضل بالنسبة لي كانت مشكلة لأنه تضيق مساحة على # و بعد ذلك تضع الكلمة ومرادفها و بعد ذلك عندما تضع المثال لا يمكنك أن تضع مثال طويل تضطر إلى الاختصار.

م ٢٦ - مق: عندما أكتب طبعاً تواجهني مشكلة عندما أكتب أو أوصل معلومة وكل شيء بس لأنه طبعاً بعد ما أنتهي من ال ١٤٠ حرف أحاول أن أعدل على كلامي وأحاول تلخيصه لدرجة إنني أوصل المعلومة بدون لا أضيع أي شيء من الكلام الذي أريد إيصاله. أكتب ١٤٠ حرف و أوصل الذي أريده أشعر إنني أحسن و أفضل لي في التعلم وأفود.

م ٢٨ - مق: والله إنني واجهت مشاكل كثيرة مع عدد الحروف أحياناً يكون التعريف الذي أعطيه أو الذي أخذه يكون طويلاً أحياناً فتواجهني مشاكل فأحاول إنني أطلع من عقلي طريقة أحاول أن أجعل التعريف واضحاً وقصيراً، أقصر من الذي قبله ولكنه واضح.

م ٦ - مق: مثلاً أنا قبل أن أعرد أقرأ تغريدات زملائي لأنه في كلمات كنت معد لها وكتبت لها أمثلة وجمال بس طويلة قليلاً فرايت تغريدات زملائي بسيطة فقلت أفعل مثلهم وأجعلها جملاً بسيطة.

م ٣٢ - مج: يمكن اضطّر أخلي تغريدة على شكل صورة و أحطها إذا أنا أبغى الكلمة مع تعريفها بالإنجليزي مع الجملة.

م ٥ - مج: يمكنك أن تعالجه مثلاً تدخل على الملاحظات و تكتب الذي في عقلك و تصور الشاشة و تنزلها كصورة أرى أن هذه الطريقة الوحيدة التي تعالج فيها.

م ١٦ - مج: وحتى إذا كنت تريد أن تتفادى هذه ولا تضع صورة تقسم، مثلاً تضع التعريف في الأول، ثم تضع السينيتمز في الثاني، ثم تضع الجملة في الثالث، مثلاً تتبعثر هكذا التغريدات، فالواحد عندما يريد أن يقرأ، لن يجد هذه الأشياء مجتمعة.

م ٣٨ - مج: ممكن نتكلم بشكل عام التعليم يعني مثلاً لو قلنا ٣٠٠ حرف معقولة تستطيع أن تشرح بشكل مبسط جداً تكتب جملتين مثلاً تعريف تعريفين كلمة مثلاً (السننم) ٣٠٠ حرف الكل يستطيع قراءتها أما عندما يرى الشخص كلاماً كثيراً (نص طويل) أمامه لن يفكر في قراءته أصلاً خصوصاً في التعليم نحن أمامك.

5.2.5.5 Use of the hashtag feature to group and organise posts

م ١٥ - مج: أعتقد أن وجودها كلها في هاشتاق واحد هو أكثر شيء مفيد وبمجرد أنك ترغب أن ترى الكلمات تدخل على الهاشتاق وخلص وتظهر لي كلها كان هذا شيء حلو.

م ٢٠ - مق: دخلت الهاشتاق كنت أرى الطلاب الذين يغردون و هكذا استفدت من تغريداتهم، بعضهم يعطيك معلومة غير عن الثاني فإذا كانت المعلومة تختلف من شخص لآخر ستستفيد منها كمعلومة تحاول تجمعها باختلاف الآراء و هكذا استفدت منها استفدت كيف يستخدمونها في جمل وكيف يستخدمونها في مفردات ويفعلون مثلاً أشياء كثيرة يتناقشون مع بعضهم .

م ٢ - مق: هو يساعد عندما تتشاور مع الذي معك في الهاشتاق يساعد كثير وبعض الأفراد الذين في الهاشتاق يصححون لك الأخطاء مثل ناصر صحح لي عدة أخطاء.

م ١٨ - مق: هو مميز إنني أرى أجوبة زملائي الذين في القاعة لأنه في غير تويتر مثل الواتس أب وهكذا تكون صعبة لأنهم يتكلمون كثيراً ويكون الكلام والتعاريف ذهبت إلى فوق لكن في تويتر تجدها موجودة على طول مثلاً أول ما تدخل البروقايل الخاص بي أي واحد من الطلاب يجد التعاريف جاهزة أو إنك تبحث عن اسم الهاشتاق بس وتجدها موجودة كلها على طول.

م ٢٨ - مق: أولاً تويتر لما تريد أن تضع الكلمات حتى لو أنت أصلاً لا تريد أن تفحص على تغريدات أصحابك لابد و أن تجد أصلاً كم كلمة فتقرأها مثلاً من باب الفضول.

5.2.5.6 Learner psychological factors and convenience

م ١٩ - مق: أتوقع هذا الشيء أفضل. لأن الناس ليست مثل بعض صراحة. مثلاً أحياناً يطلع لك واحد تجده يزعجك لدرجة أنه يكرهك الشغل كله، و أحياناً تجد لك واحد بالعكس، على حسب. تويتر إنت إنفرادي شغلك وكيفك. على راحتك النفسية لن يفرض عليك رأيته يقولك هذا خطأ أو هذا صح هذا لا أدري ماهو .. تمام أنا أنزلها و إذا فيه خطأ يقولون لي بعد ذلك.

م ٢٦ - مق: ميزة تويتر إنه إنت شخص رمزي مثل ماتقول تتكلم مع أي أحد في الوقت الذي يناسبك في المكان الذي يناسبك بدون أي إحراج. المشكلة في الفصل إنك لمن تتكلم تخاف إنه هذا يزعل، تكون محرج من هذا، بعضهم يستحي حتى إنه يتكلم في الفصل. يعني من الأشياء التي تراها إنه يكون إنسان عارف وعنده إمكانيات في الكتابة في تويتر. لكن في الفصل لا يتكلم إما لأنه يستحي أو لأنه يكون مؤدباً أو شيء مثل هذا. هذه ميزة تويتر إنك تستطيع أن تتكلم براحتك بدون أن يعلق أي شخص على كلامك.

م ٣٧ - مق: حتى أصبحت المسألة نفسية لو أخذتها من الجانب النفسي أنا حينما أفتح الكتاب أشعر بقليل من الثقل على نفسي لكن حينما أمسك الجوال الذي أنا أساساً ليس لدي مشكلة أن أكون ممسكاً به دائماً أو شيء مثل هذا ليس لدي مشكلة أن أفتح تويتر وأشارك فهذه ليست مشكلة، بسيطة مثلاً.

م ٣٣ - مق: يمكن لبعض الناس أن يستفيدوا. بس من وجهة نظري أنا لن أستفيد شيء. ليش؟ لأنه أول شيء البيئة لم تكن مناسبة إنني أفكر في الموضوع أو شيء مثل هذا. لأن الكلمة ستأتيني بمعنى ثاني وترسخ أكثر من معنى و تتلخبط الأمور كلها عندي. ولذلك أواجه بعض المشاكل أنه حسب (معنى) التعلم يكون في بيئة أهم شيء أن تكون مناسبة، ثانياً، إنني أكون مرتاح، هذا أهم شيء عندي.

5.2.5.7 Extending classroom time

م ٢٠ - مق: فعندما ينتهي وقت المحاضرة خلاص تنتهي المعلومة أما في تويتر المعلومة تكون مثلا في الزمن الذي تريده.

م ٢٤ - مج: أنا قصدي يكون في نفس تويتر لأنه عادة الكلاس بالكاد ننهيه فأنا اتكلم عن نفس التويتر يكون فيه ممكن تصحيح أو مبادلة أفكار في تويتر نفسه.

م ١٤ - مق: فعلا أفادني بالنسبة للترم الأول كنا نأخذ المعلومات ونترجمها في نفس الوقت، أقصد اختصار وقت.

م ١ - مج: أو حينما تخرج من المحاضرة تستطيع تراجع الكلمات وترى أقصد تويتر معك يعني تويتر أي وقت عندك ماله وقت حتى ينتهي.

م ١٠ - مق: لكن في الهاشتاق نفسه الهاشتاق باقي مثلا يمديك في أي وقت تدخل الهاشتاق و ترى الكلمة مرة مرتين ثلاث أربعة خمسة وأيضا لأن وقت الكلاس محدود مثلا ربع ساعة نص ساعة هناك في تويتر طول اليوم تستطيع أن تدخل الهاشتاق و تتعلم الكلمة.

5.2.5.8 Exposure to authentic usage of targeted lexical items

م ٣٥ - مق: نحن لسنا في مجتمع كله يتكلم اللغة الانجليزية فأدخل أرى كيف الناس يستعملوها، النايفت سبيكرز وهكذا

م ٨ - مق: إني وصلت للأجانب الذين خارج البلد الذين يتكلمون الإنجليزية لغتهم الأم فعندما تبحث في تويتر، ترى الذين لغتهم الأم الإنجليزية كيف يستخدمون الكلمة، كيف الإنجليزي معهم، وكيف تويتر معهم. فأفادني هذا.

م ٩ - مق: هذه الأمثلة التي يأتون بها من الناس أكيد تستفيد منها لأنها أمثلة مستخدمة في اليوم... صحيح (نعم) لأنها أمثلة لناس كتبوها فتستفيد منها.

م ١٩ - مق: في بعض الكلمات لاتعرف معناها إلا إذا عشت عندهم. صحيح (نعم) إستعملهم لها غريب. في تويتر كأنك معاهم مثلا ترى حياتهم، لماذا كاتبين، لماذا معلقين، تغريدات.. أي شيء تراه عندهم والا أول مثلا تخيل إن كنا في كتاب و عاد ما أنت داري ايش راح يصير برا والا ايش كاتبين العالم، في كتابك وبس.

م ٢٠ - مق: لا ليس في نفس الهاشتاق لا أنت مجرد ما تبحث في تويتر عن أي كلمة ستجد معلومات كثيرة عنها مرة. فأنا أرى المعلومة التي تجذبني تجذبني أكثر وأكثر وأقرأها كثيرا و حتى ممكن أبحث عنها كثيرا.

م ١٠ - مق: يعجبني أكثر شيء الكوتس هذه الذي يسموها المقولات مثلا مثل ما تقول الكلمات تكون أحسن قليل.

م ٢٨ - مق: والله حلو إن الواحد يرى فأنت ترى طريقة تفكيرهم أيضا في استخدام الكلمة، فعندما تراها إنت خلاص تأخذها بالتفكير الذي لديهم، لأنه أحيانا أنت تحسب الكلمة ومعناها وهكذا، و لكن بعض الناس يفهموها بطريقة ثانية، لأنه أنت تعرف، هي لغتهم هم في النهاية.

م ١ - مج: أنا أشوف إنه البحث عن الناطقين باللغة الإنجليزية و المهتمين بالإنجليزية لأنهم أكثر علم هما عندهم اللغة الأم أحسن مثلا إحنا نتعلم هذه اللغة الثانية وهي ليست لغتنا الأم فهم مثلا أفضل منا فيها و أفضل طريقة إحنا نأخذها من الناطقين باللغة الإنجليزية و الممارسين لها لأنها لغتهم الأم هذه وجهة نظري.

5.2.5.9 Social learning facilitation and benefits

م ١١ - مج: وفر لك مكان تتكلم فيه مثل ماتريد براحتك تقول الذي لديك تقول الذي تريده.

م ٧ - مج: هو دافع إذا الدكتور رأى و مدح أو أعطاك تفضيلا أو شيء كهذا سيكون فيه دافع أنه و الله الدكتور رأى تعريديتي الدكتور مهتم يرى معانا.

م ٢٠ - مق: على سبيل المثال الآن جون حلو أنا كلمته جون آدمي (إنسان) مثقف عملت له فلو حلو رجع عمل لي فلو باك طيب أرسلت له رسالة خاصة جون ممكن نتحدث.

م ٢٤ - تق: تجربة جميلة هذا الأسبوع خاصة أنني رأيت أمثلة الشباب، كانت تجربة مميزة -الطالب قام برسم وجه سعيد-

- م ٣٠ - مق: بعض الأحيان أرى جملة، الجملة نفسها تفهمني الكلمة أكثر من التي أفهمها
- م ١٠ - مق: الفائدة أنك ترى مثال ثاني مثلاً ليس مثال مثل الذي وضعت أنت، مثلاً يمكن يكون في نفس المثال هذا كلمات ممكن أني لم أكن أعرفها لأنني أقرأ لبعض الزملاء فأنا أبحث عنها لكي أعرف ما هو معنى الجملة كيف وضع الكلمة هذه في الجملة نفسها فتصبح الفائدة فائدتين.
- م ١٤ - مق: مثلاً أقارن المعلومة التي لدي مع المعلومة التي لدى زميلي. أقارنها أرى ما هو الأفضل وما هو لا. ممكن من خلال هذا الشيء نستنتج معلومة.
- م ٢٢ - مق: هو مفيد، مثلاً كأنك في نفس الكلاس. مثلاً تغرد يرد عليك. في خطأ يصحح لك بس مثلاً يمكن في (الفصل) بعضهم لا يردون لكن في تويتر أي أحد ممكن يرد، في أي وقت.
- م ٧ - مق: أتوقع إذا راح تويتر يضرنا، لأننا استفدنا منه الشيء الكثير أصبح هناك أشخاص تستطيع أن تشارك معاهم، سيقبل هذا الشيء و أتوقع أنه يضرنا.
- م ٢٧ - مق: تويتر سيجعل الموضوع أفضل من ناحية العمل الجماعي، لأن الناس في كتابة (التغريدات) تحب أن تتطلع على القاموس والمترجم، تحب توظف الكلام من عندها. أما إذا كنا في الفصل أبدأ الجميع لن يشارك فيه الناس لأنهم يروا مستواهم أقل من مستوى الطالب الآخر فيخاف حتى لو كان لديه إجابة صحيحة يخاف أنه يقول إجابة خاطئة يمكن تسبب مشاكل مثلاً أو إحراج. فأنا رأيت تويتر أفضل لأنه تتكلم بأريحية وتأخذ راحتك، تقرأ تغريدات الناس وتعرف ما هو توظيف الكلمة.
- م ١ - مج: أتوقع إنها طريقة أفضل من الهاشتاق لأننا نناقش الكلمة ونتباحث فيها أكثر بكثير من مجرد أن نضع الكلمة في الهاشتاق وننصرف بس خلاص حتى نتباحث في الكلمة طالما أننا نحن وجهها لوجه.
- م ٤ - مج: لا أتوقع أنه أفضل لأن الرهبة والخوف من الخطأ سترجع، الكلام يقل، في تويتر أفضل وأريح تراتح عادي لا تشعر برهبة المدرس أو المعلم يكون أريح لك.
- م ٧ - مج: في الكلاس لن تجد مكان تبحث فيه عن الكلمة أو تقرأ لناس يكتبون عن هذه الكلمة لن تستطيع الوصول لأشخاص آخرين.
- م ١١ - مج: أكثر شيء تستفيد منه في الفصل هو النطق لكن في التويتر أفضل لكن في الفصل مثل ما قلت النطق إذا كان نطقي خطأ إنت (المدرس) سوف تصحح لي.
- م ٣٣ - مق: طبعاً مفيد لأنك سوف تتعلم. حتى لو كان لديك خطأ سوف يعلموك ما هو الصح.
- م ٤ - مج: ممكن تسال الزملاء عن تغريداتهم مثلاً إذا لم تكن فاهم شيء تسال أي شخص لأنه يوجد أشخاص يساعدوك.
- م ٣٦ - مق: ساعدوني نعم أشخاص أعلى من مستواي وساعدوني على طول وشرحوها لي بشكل بسيط.
- مرة غردت وعدت و التغريدة تغريدتي وحذفت زملائي ثم أعدت تعديل تغريدات من م ٢٦ - مق: قرأت تغريدة تغريدة زملائي. أن قرأت بعد أخرى
- م ١٤ - تق: كان لدي خطأ إملائي وقمت بتعديله بعد المراجعة.
- م ٢٤ - مج: هذه إضافة بأنه التصحيح أننا نصحح لبعضنا عندما يصحح أحدهم لي و هكذا أعرف أنه لدي خطأ.
- م ٣٨ - مج: ومن ناحية الترسخ عندما يأتي شخص و يصحح للثاني جملته سوف تثبت الجملة المصححة وتثبت أكثر.

5.2.5.10 Fostering a more autonomous and student-centred vocabulary learning environment

- م ١٤ - مق: مثلاً الكلمات التي أترجمها وأدرسها بنفسني طبعاً بعدها بفترة أدرسها مع الدكتور. مثلاً المعلومة التي لدي مع المعلومة (التي ذكرها المدرس) وهذه من الطرق التي ساعدتني.
- م ٢٦ - مق: كان (إستخدام تويتر) يجعل الشخص يحضر الكلمات قبل أن يأتي إلى الفصل وهذا الشيء نادراً ما يفعله الطلاب، إن الطالب يحضر ويرى الكلام الذي عليه ويرى الكلمات التي عليه، وهذا الشيء نفعتني كثير بصراحة. و

الشي الثاني أنني في الفصل نفسه بدل أن أسأل الدكتور أو أستفسر منه عن الكلمة أو الكلمات أكون أصلاً قد قرأتها وعرفت معناها.

م ١٨ - مق: بس أنا التعاريف وهذه كنت أخذها من قول، يوجد مواقع خاصة للتعاريف والمرادفات بس لم أكن أخذها من تويتر، حتى الأمثلة لم أكن أخذها من تويتر، لكن كنت أبحث عنها في تويتر وأرى أمثلة الناس، لكن أستخدم نفس طريقة تويتر في الكلمات هذه حتى لو لم تحددها لنا.

م ٣٥ - مق: حتى الآن أحياناً أستخدمه لكن كلمة لا أعرف استخدامها أعمل لها بحث في تويتر وأرى كيف الناس تستخدمها. استعمال هذه الطريقة عجبني. فكرة إنت قلتها عجبني. سأستخدمها تقريبا كل يوم.

م ٢٠ - مق: بحثت عن بعض الكلمات مثل الكتاب أو شيء مثل هذا (كلمة بالفرنسي) طالب أو شيء مثل هذا وهي أصلاً من بداية الفصل أنا تعمقت فيها من بعد ما رأيت تويتر وبرنامجكم وشي مثل هذا ودخلت اللغة الفرنسية التي هي مقرر اختياري قسم اثنين وحاولت أدخل مع اللغة الفرنسية لأنني خلاص مثلاً مرة أشعر إنني تعمقت فيها. م ٩ - مق: بس في نفس الوقت أنا الآن حتى لو لم يتكرر معي نفس الهاشتاق، تعلمت إنني أكتب كلمات وأبحث عنها في تويتر واستفيد منها.

5.2.6 Effect of using mobile microblogging on learner's engagement with vocabulary

5.2.6.1 Behavioural engagement

م ١٧ - مق: لا، بعد أن تنزل الكلمات أنزل إلى تحت آخر تغريدة ثم أوقف.

م ١٩ - مق: لا، تويتر غير ذلك مرة، مثلاً أحياناً عندما أمل مثلاً أفتح تويتر أقرأ وأقلب في الكلمات و التغريدات حقني أراها مرة أخرى، متذكرها.

م ١٨ - مق: أكيد أنا أكون بعد أن أنزل الكلمات بعد أن أنتهي منها تبع هذا الأسبوع أذهب وأرى تغريدات أصحابي. وإذا لم ينزلوا شيئاً أرى بعد يوم، أو بعد خمس ست ساعات، وهكذا.

م ٣٣ - مق: أول شيء تويتر أفادني في إنني أصبحت أتعلم من أصحابي، مثلاً يوجد بعض التغريدات منهم، وأنني أتعلم بعض الجمل أو الكلمات، لأنها تتطور اللغة الإنجليزي لدي، مثلاً جعلني معظم وقتي إنني مثلاً أحياناً أجعل في الأسبوع يومين إلى ثلاث أيام أدخل على تويتر أرى الهاشتاق أو أرى أصحابي ماذا يكتبون وهكذا.

م ٣٣ - مق: أول شيء تويتر أفادني في إنني أصبحت أتعلم من أصحابي، مثلاً يوجد بعض التغريدات لهم، وأنني أتعلم بعض الجمل أو الكلمات، لأن اللغة الإنجليزي تتطور لدي، مثلاً جعلني معظم وقتي إنني مثلاً أحياناً أجعل في الأسبوع يومين إلى ثلاثة أيام أدخل على تويتر أرى الهاشتاق أو أرى أصحابي ماذا يكتبون وهكذا.

م ٣ - مق: بعد التجربة هذه، أصبح لدي بعض المفردات الكثيرة لأنه كل ما كنت ترسل في الهاشتاق كنت أكتب الكلمات وأحفظها مثلاً بعد كل أسبوع أعمل نفس الطريقة إلى أن أصبح لدي كثير من الكلمات. يعني الحمد لله استفدت كثيراً.

م ٢٨ - مق: أول شيء تويتر إذا أردت أن تضع الكلمات حتى لو أنت أصلاً ما كنت ترغب في التشبيك على تغريدات أصحابك لابد وأن تضع (تقوم بالتغريد) ستجد أصلاً كم كلمة فتقرأها مثلاً من باب الفضول.

م ٢٨ - مق: وغير ذلك أنك الآن عندما تضع لها (الكلمة) تعريف و مثال، هذا كذا يعني إنت عملت شيئين.

م ١ - مج: بالنسبة لي طبعاً أكيد يوجد فائدة لأنك وأنت تبحث عن الكلمة وتبحث عن معناها وتكتشف أن الكلمة لها أكثر من معنى حتى لو لم تشارك سترى الهاشتاق ومشاركات الزملاء سوف تستفيد، لكن لو شاركت تستفيد أكثر.

م ٦ - مق: فالجواب دائماً في يده، ويستفيد في أي وقت. مثلاً الدكتور طلب منك تتعلم عدة كلمات وحدد لك الكلمات من الكتاب ممكن لن تفتح الكتاب في البيت ولن تستفيد لكن الجواب معك ٢٤ ساعة في يدك مثلاً شيء أكيد إنك تتعلم.

م ١٢ - مج: أكيد استفدت من تجربتي لتويتر لأنني درست Reading I القراءة وعرفت كلمات مثلاً لم تثبت مثل ما تثبت هذا الترم لأنه وأنت تبحث عن الكلمة وترى زملاءك كيف استخدموها وترى وتضع (وتكتب وتقرأ) example وهكذا تكون قد حفظت أكثر في مخك.

5.2.6.2 Cognitive engagement

م ٢٤ - مج: بالنسبة لي أنا لذي خطوات في كتابة الكلمات، أول شيء أترجم الكلمة وأرى كم معنى لها ثم أفحص الكلمات وكيف استخدمها الناس في التويتر، سوف أفهم الكلمة وكيف استخدمت في نفس الجملة ثم أفهم الجمل نفسها بعد ما أفهمها أبداً وأضع المعنى الذي تأكد عندي ثم أكتب الجملة.

م ٢٦ - مق: أكثر شيء مفيد و هو قراءة تغريدات زملائي، و قراءة تغريدات الأشخاص الآخرين. لأنني كنت أقرأ تغريدة تغريدتين ثلاثة أربعة مكتوبة في سياقات مختلفة و أغلب التغريدات يكون مضاف معها صورة أو معها شيء فهذه ساعدت كثيراً في تعلم معنى الكلمة وثبت المعنى أيضاً في العقل.

م ١٠ - مق: الفائدة إنك ترى مثال ثاني مثلاً ليس مثل المثال الذي وضعت أنت مثلاً يمكن أن يكون في نفس المثال هذا فيه كلمات يمكن لم أكن أعرفها لأنني أقرأ لبعض زملاء فانا أبحث عنها لكي أعرف ما هو معنى الجملة وكيف أضع الكلمة هذه في الجملة نفسها فتصبح الفائدة فائدتين.

م ٢٧ - مق: ثم بعد ذلك حبة حبة بدأ هذا الشيء يتطور لدي ، في البداية كنت أغرد تغريدات و أترك الجوال و أنصرف وبعد ذلك لا، أصبحت أغرد تغريدات و أرى تغريدات زملائي، مثلاً هل الكلمة كانت صحيحة على سياق الجملة؟ كيف يكون معناها في الجملة؟ لأن الكلمات تختلف من جملة لجملة، في طالب يكتبها في جملة فإذا ترجمت المعنى إلى اللغة العربية يظهر غير ذلك، بينما إذا إنت كتبتها في جملة وأيضاً المعنى العربي يظهر غير ذلك.

م ٢٩ - مق: من خلال تجربتي، أرى أنه إذا كنت لا تعرف معنى الكلمة و استخرجت المعنى فقط و وضعته في الهاشتاق غالباً سينسى، لكن إذا استخرجت الكلمة ومعناها مع ذكر مثال فغالباً لن تنسى لأن المثال يساعد بشكل كبير.

5.2.6.4 Social engagement

م ٨ - مق: تجد الكلمة على حساب تويتر والكل يشارك في التويتر، فالآن يمكنك أن تتعلم من تويتر.

م ٩ - مق: لأنه يوجد في تويتر طلاب يشاركون بكلمات وطلاب يردون وهكذا.

م ٣ - مق: المشاركة المشاركة فقط، إنك تكتب الكلمة وترسلها وترى زملاءك ماذا يقولون.

م ٢٠ - مق: تويتر فتح لي المجال إنني أتحدث مع أصحابي عندما نرجع إلى الفصل، هنا نتحدث مع بعض.

م ٧ - مق: أتوقع إذا ذهب تويتر يضرنا، لأننا استفدنا منه الشيء الكثير، ووجود أشخاص تشارك معهم سوف يقلل هذا الشيء و أتوقع أنه يضرنا.

5.2.6.5 Engagement with vocabulary as a critical factor

م ٨ - مق: عندما أرى الكلمة أشعر أكثر أنني تمام فهمتها، تعلمتها واكتسبتها.

م ٢٧ - مق: لا، للامانة زاد لأن هذه الكلمات أنا شخصياً كنت أراها في القطع الموجودة لدينا في الكتاب، فكنت أرى الكلمات بشكل متكرر.

تغريدة أقرأ الناس الآخرين. لأنني كنت تغريدات تغريدات زملائي، قراءة قراءة هو مفيد شيء م ٢٦ - مق: أكثر فهذه شيء معها أو صورة معها مضاف يكون التغريدات و أغلب مختلفة سياقات في مكتوبة أربعة ثلاثة تغريدتين في العقل. المعنى أيضاً وتثبيت الكلمة معنى تعلم في جداً كثيراً ساعدت

م ٩ - مق: لأنك تكتب الكلمة المطلوبة وتبحث عنها تجدها مستخدمة في جمل و أمثلة عند الغير، طبعاً ليس شرطاً الطلاب.

م ٢٨ - مق: أول شيء تويتر عندما تأتي وتضع الكلمات حتى لو أنت أصلاً لا تريد أن تشبك على تغريدات أصحابك لابد و أنك تضع (تقوم بالتغريد) سوف تجد أصلاً كم كلمة فتقرأها مثلاً من باب الفضول.

م ١١ - مج: دائماً وأيضاً عندما تطبق الذي تتعلمه يكون أفضل التعليم فيها و يكون أقوى في المراجعة و القراءة.

م ٢٠ - مق: أول شيء لك الحرية إنك تفتح تويتر في أي وقت، لا يوجد وقت أو زمن معين يحددك مثل زمن المحاضرة، أما في تويتر خلاص المعلومة ستكون مثلاً للزمن الذي أنت تريده، حتى ممكن نستخدمها ممكن مع أصحابنا برة أو شيء مثل هذا حينما ندخل تويتر يوجد معلومات كثيرة في تويتر يعني حتى ممكن مثلاً الكلمة التي نحن نبحت عنها نبحت عنها مثلاً في نفس التويتر نجد يعني جمل كثيرة عنها.

م ٢٦ - مق: مثلاً لدي كلمة صعبة ما عرفت لها عملت لها بحث في تويتر، لدي ١٥ مثال أقرأ ١٥ مثال المثال الأول لن أفهمه المثال الثاني لن أفهمه المثال الثالث سيكون صعب المثال الرابع الخامس أكيد سأجد مثال أستطيع أن أفهم منه.

م ١٨ - مق: لا، لا، أتذكرها أفضل لأنني أيضاً جابب (الديفينيشن) من نفسي وأتيت بالمعنى و كنت أبحث عن المرادف للكلمة في البحث وهذا كله يذكرني بالكلمة نفسها، أصبحت تمام حافظها.

5.2.7 Approaching vocabulary and learning outcomes

5.2.7.1 Perceived impact on learning and remembering vocabulary

م ٣ - مق: زاد عدد المفردات و أفادني معرفة استخدامها بشكل عام.

م ٣٠ - مق: تعرف كلمات جديدة، تعرف تركيب جمل.

م ٣٣ - مق: مثلاً، إنه يدرس خمس مرات في اليوم أو خمس مرات في الترم كامل تفرق، أو خمس مرات أكثر من ثلاث مرات، لأنه سيستفيد من الكلمة، سوف ترسخ في رأسه.

م ٢٧ - مق: مع الالتزام في تويتر ومع قراءة تغريدات زملائي مع الأيام بدأت أشعر بالتطور والزيادة (في عدد المفردات)، أصبحت أرى الكلمات وأعرفها، أعرف معناها بالعربي و أعرف أوظفها في جملة.

م ٤ - مج: بالعكس أنا أرى أنه يفيد أكثر لأنه بالتأكيد كل واحد سيستخدم الكلمة باستخدامها مع مفردات أخرى، داخل تتعلم كلمة سوف تتعلم عشرة تقريباً.

م ٢٦ - مق: في الفصل نفسه بدل أن أسأل الدكتور أو أستفسر منه عن كلمة وإلا كلمات أكون أصلاً قد قرأت وعرفت معناها، واستفدت طبعاً من الأشياء التي وضعها زملائي وعرفت أكثر من معنى للكلمة و استخدامات الكلمة الكثيرة طبعاً، الاستخدامات الكثيرة.

الأستاذ: أنا ماكانوا يقولون لي لكن أنا كنت أرى الأثر وبالتحديد في تعريفهم للكلمة. مثلاً واحدة من الأشياء التي يعملونها أن الطالب يعطيني تعريف للكلمة ما أتوقف، أسأل طالب ثاني وثالث ورابع وخامس، فكنت أسمع تعاريف مختلفة كلها في المعنى نفسه. فواضح إنه هو نفسه فامليار مع الكلمة.

5.2.7.2 Participation

م ١٨ - مق: أثر كثير، مثلاً (أنا) دائماً هاديء ولا أشارك كثير لأن أغلب الكلمات لا أعرفها لكن عندما أكون منزل التعريف حقها اليوم الذي قبله، في المحاضرة أكون أستطيع أن أشارك.

م ١٤ - مق: هل يوجد لديك معلومة في رأسك، أقصد المعلومات مع الدكتور تشاركها.

م ٢٧ - مق: لم أكن أشارك فشعرت أن عطائي في الفصل كان أقل من زملائي. أنا رأيت الجميع يعرف كلمات جديدة يعرف يوظفها يعرف كيف يستخدمها.

م ١ - مج: أكيد أنه أثر و فرق لأنني عندما أشارك في المحاضرة سوف أكون عارف الكلمات تبعث الدرس قبل أن أحضر فعندما أشارك أكون متأكد أن الكلمة صح و مشاركتي صح، فعندما أشارك أشارك أكثر و أكثر.

م ٤ - مج: كنت أواجه في القطعة أنني لا أفهم بعض الكلمات التي هي من ضمن الكلمات التي تأتينا في تويتر مثلاً قبل ذلك لم أكن أفهمها قبل تويتر لكن الآن أصبحت أعرف الكلمات هذه و عندما يسأل عنها الدكتور أجيب و أشارك معه.

م ٧ - مج: أتوقع السؤال هذا ممكن يجيب عليه الدكتور كيف كنا قبل تويتر؟ وكيف أصبحنا بعده؟ هل فيه اختلاف أتوقع كبير، لأنه قبل تويتر كنا نأتي و نأخذ الكلمات، الآن نأتي مراجعة للكلمات في المحاضرة، مثلاً نكون عرفنا الكلمات، عرفنا معانيها، فأتوقع أنه يوجد إختلاف كبير قبل و بعد.

الأستاذ: وفي (الانترآكشن) في الفصل، بعد ثلاث أربع أسابيع تقريبا ، واضح أنه يوجد تفاعل حقيقي في الفصل ، مع إنني لا أميز الطلاب الذين شاركوا من الذين لم يشاركوا ليس لدي علم عنهم، لكن أستطيع مثلا إلى درجة ٥٠ - ٦٠ % أقول إن الطالب هذا شارك معاك في تويتر.

5.2.7.3 Comprehension and understanding

- م ٢٠ - مق: أصبحت تمام أفهم المقال كامل مع الدكتور عندما يقرأ.
- م ٨ - مق: أصبحت أفهم بسرعة، أنا قبل في الفصل الأول أحضر ولا أدري عن الكلمات هذه، الدكتور يقرأ لنا القطعة ولا أعرف الكلمات هذه فهو يضطر أن يشرحها بالعربي، الفصل هذا لما جاء تويتر، أعرف الكلمات ولا احتاج أن يشرح لي بالعربي و أفهم واستطعت فهمها على طول.
- م ٢٩ - مق: لكن ما أتوقع لو لم أكن فاهمها لا أتوقع أن الشرح سوف يصل لي، لأنها تكون معقدة قليلا بإحتياج لها أمثلة أو يحتاج لها مثلا فحص عليها بنفسك.
- م ٢٧ - مق: في شيء، لاحظته (تويتر) أنه ساعدني كثير في استخراج الفكرة الرئيسية للنص.
- م ٣٦ - مق: كانت لدي مشكلة في القراءة في المستوى الماضي ، فأخذ الدرس قبل المحاضرة حتى عندما أدخل أكون فاهم، فكانت دائما لا تعطي معي نتيجة أجد نفسي ترجمت كلمات خطأ غير ، عكس المطلوب في الدرس، غير هذا، لكن بعد التويتر أصبحت عندما أدخل مع الدكتور أجد نفسي أرى الكلمة و أفهم ماهو المقصود منها في هذا السياق.
- م ٢٤ - مج: لا لم ألاحظ شيء كثير، لأنه مثل ما قلت لك أنا للأسف مثل ما كنت أفعل بس أنه واجب وخلص ما كنت أستطيع أن أستفيد
- م ١٦ - مج: نفس الشيء بالنسبة لي، شيء قليل مرة اللي فرق بالنسبة للاستفادة في المحاضرة.
- م ٢١ - مج: غالبا لا تلاحظ الفرق في نفس الوقت مثلا تلاحظه بعد فترة.
- م ١٥ - مج: لا أنا فرق معايا، الحقيقة شعرت إنني فعلا استفدت وكنت متحضر لبعض الكلمات الموجودة.
- م ٣٢ - مج: لا أستطيع أن أقول فهم عالي أو فهم منخفض، بين و بين يوجد بعض الكلمات. في المتوسط أحيانا تشعر إنك مستوعبها تمام أحيانا تشعر بالرغم من أنني وضعت معنى، وضعت جملة إلا أن الذي أراه أمامي في الكتاب مختلف قليلا ممكن.
- م ١٣ - مج: أعتقد استفدت أكيد، استفدت في الجمل التي أعرفها والجمل بعضها أنساها، أعتقد أن التي أركز عليها أكثر استفدت.
- م ٣٨ - مج: الكلمات اللي بشوفها وبحلها في تويتر، أجي في الدرس هنا بشوف كلمة جديدة، أغلب الكلمات لأن معانيها تختلف جدا في الكونتكتست، في المسج، ٩٠% ٩٥% بشوف شيء جديد كأنني ما سويت شيء في تويتر.
- الأستاذ: في مجموعة كبيرة أصبحت تعي وتعلم ماتقول و تفهم الذي أنت تتكلمه، وفي مجموعة قليلة جدا والدليل ملاحظتي إنه في عدد أكبر من الطلاب مستوعبين ما نأخذه.

5.2.8 Challenges of using mobile microblogging

5.2.8.1 Time

- م ١٨ - مق: لكن يوجد مثل ماتقول بعض الأحيان لا يكون لدي وقت أعد و أراجع الكلمات في تويتر و هكذا
- م ٣٣ - مق: بصراحة، عادة لأنه أنا الوقت لدي جداً ضيق، فعادة أحاول قدر المستطاع إنني أراها مرتين ثلاث مرات.
- م ٢٨ - مق: أحيانا الواحد يكون عنده إختبارات و إلا فهي جداً رائعة.
- م ٣٥ - مق: لكن إذا لازم قبل نهاية الأسبوع وتكتب وما أدري ما هذا ، شكله كذا شوية ضغط.

5.2.8.2 Connection

م ٢٧ - مق: تويتر و وسائل التواصل الإجتماعي والتعليم الإلكتروني أنا لا تستهويني عامة، لأنه مثل ماتعرف إنت تحتاج شبكات على الدوام.

م ٩ - تق: لم أتمكن من قراءة التغريدات لتوقف النت لدي.

م ٢٢ - مق: مثلاً، لا تنقيد بمكان واحد، مثلاً مكتبي، تستطيع أن تذهب مثلاً إلى أي مكان، أهم شيء فيه مصدر إنترنت، في أي مكان.

م ١٦ - مج: أنا شخصياً ليس لدي إنترنت في الجوال، بينما الخدمة موجودة عند آخرين، لو كان عندي خدمة إنترنت ربما ممكن أشبك على الهاشتاق. كذلك الواي فاي في الجامعة موجود ولكن لا يشبك.

م ٣٩ - تق: كان النت مفصول بسبب تأخر نزول المكافأة

م ١٦ - مج: بس ربما تظل المشكلة لا توجد لدى الآخرين وإنما خاصة بي.

5.2.8.3 Technical issues

م ٥ - مق: لا، عارف أنا أصلاً، من الممكن الواحد يغرد ولا يجدها بعد ذلك أو لا يجدها ولا شيء، فقلت أكتبها بدفتر ولا شيء و تكون موجودة لدي في أي وقت أجدها.

م ٣٢ - مج: عندما يكون لدي في دفتر يبقى لدي شيء مثلاً من الذكريات، أراها بعد سنة ونص، سنتين، هل أنا تحسنت؟ لكن التغريدة في تويتر (حفظ التغريدات)، يمكن إن حسابك راح أو انحذفت التغريدة.

م ٣٧ - واجهت مشكلة تتعلق بحسابي في تويتر وتم مسح جميع تغريداتي وبياناتي وقد يكون هاكلر أو قيد الاستخدام من شخص آخر وقمت بإنشاء حساب جديد لأعود للمشاركة في الهاشتاق.

م ١٣ - مج: فأعتقد هذه جداً مفيدة إنه إذا استخدم بعض الطلاب (استخدموا الكلمات في جمل مفيدة)، ما حذفوا الاستخدامات حقهم (الجميل المفيدة) والمشاركات فيستفيد منها طلاب آخرون.

5.2.8.4 Lack of familiarity with e-learning and Twitter use knowledge

م ٣٨ - مج: من الصعوبات التي نراها في تويتر الآن، مثلاً هو ليس عيب في تويتر، لا، عيب خيلنا نقول في الواقع بشكل عام. التعليم من صغرنا من أولى إبتدائي، من الروضة إلى الآن لم ندرس بالإنترنت، هذه أول مرة أرى أننا ندرس بالإنترنت، لسنا مستوعبين، الأغلب ليس مستوعب، بالكاد تأقلمنا، فالأجيال التي سوف تكون قادمة سوف تتفاعل أكثر منا وسيأتون بأفكار جديدة، فهذا أيضاً نقص فينا نحن.

م ٢٤ - مج: أنا شعرت إنه عادي ليست جديدة ومشكلة.

م ١٦ - مج: لا، صح جديد لم تجربيه من الروضة إلى الجامعة، لكن ضروري تكون هناك مرة أولى، لو كنا أخذناها في المتوسطة أو في الثانوية مثلاً لكنه جاء الآن. كنا اجتمعنا هذيك المرة وتكلمنا، وجربنا قليلاً، حتى لو لم نستفد من تعلم المصطلحات استفدنا من تعلم استخدام تويتر، فلو احتجنا مرة ثانية نستخدم تويتر للتعلم ما نحصل مشكلة، يعني التعامل مع تويتر صار شيء مكتسب.

م ٣٧ - مق: لم تكن الصورة واضحة وما كان الواحد متعود إنه يستخدم البرنامج على حسب ما شرحته، لكن بعد ذلك، بعد أسبوع أصبح الواحد متعود عليه وأصبح يشعر بالفائدة.

م ٢٠ - مق: أنا أول شيء ما كنت فاهم البرنامج، فبعد ذلك سألت زميل وهذا الزميل ساعدني.

م ٧ - مج: مؤقتة أكيد، لأنه أنا أتكلم عن نفسي ما كنت أعرف كثير في تويتر ومع الاستخدام في الهاشتاق الذي علمناه والاستخدام المتكرر للكلمات سهل شيئاً كثيراً.