# A Review of Emerging Technologies: Mobile Assisted Language Learning (MALL)

Atef Odeh AbuSa'aleek
Department of English language and Translation, Unaizah Community College
Qassim University, Kingdom of Saudi Arabia
*Email: atefodeh {at} hotmail.com*

_____

**ABSTRACT--- *Mobile is a significant tool that supports and integrates effectively in enhancing the language skills due to its features such as accessibility, interactivity, immediacy, permanency, situating of instructional activities. This paper investigates the phenomenon and the impact of Mobile Assisted Language Learning on English language skills. It also explores the salient features and drawbacks of Mobile Assisted Language Learning. In addition, it tries to shed light on the current perspectives and the future of Mobile Assisted Language Learning. The study found that mobile devices are finding their way into classrooms in children's pockets, and we must ensure that educational practice can include these technologies in productive ways. The study recommends that studies on the impact of Mobile on English language skills and get its maximum benefits for English language learning and teaching.***

**Keywords---** Mobile Assisted Language Learning (MALL), effective learning, modern communication devices
_____

## 1. INTRODUCTION

Mobile Assisted Language Learning (MALL) considers as approach in which mobile is used to support and enhance learning of languages. In the present study, the writer uses the terms Mobile Assisted Language Learning (MALL) to refer also to Mobile Learning (M-Learning).

Mobile devices have created a new field of research that relates to language learning and mobile technologies called Mobile Assisted Language Learning (Colpaert, 2004; Beatty, 2003).

Researchers (Attewell & Webster, 2004; Chinnery, 2006; Klopfer, Squire, & Jenkins, 2002; Soloway, Norris, Blumenfeld, Fishman, Krajcik, & Marx, 2001) explored how to use mobile technology to support language learning and the salient features of MALL, including portability, social interactivity, context sensitivity, connectivity, individuality, and immediacy. According to Kukulska-Hulme & Shield (2008) that researchers and educators need to understand how mobile technologies can be efficiently used to support various kinds of learning and develop effective methods and materials especially when mobile technologies integrated into teaching and learning. Ogata & Yano (2005) have introduced five features of MALL, such as, accessibility, interactivity, immediacy, permanency, situating of instructional activities. In addition, Huang & Lin (2012) mentioned some merits of mobile technologies such as flexibility, low cost, small size and user-friendliness.

In language learning, the features of mobile technologies such as Texting, voice and video recording, access to the Internet and cameras, enable the learners to enhance their communicative skills and access to authentic materials.

Nowadays, due to the expansion of wireless and mobile technologies MALL exists through numerous devices such as Smart phones, mobile phones, iPods, tablet PCs, hand-held computers, PDAs, MP3 players. MALL designers have started to implement techniques that maximize the benefits of these new devices. The increasing number of possible delivery tools has produced a wide range of MALL programs, from very-short tutorials to full courses.

In fact, it was a challenging affair to cover learning tasks by a mobile phone. Mobile devices have rapidly developed to become tools for learning the languages. Teachers and students are getting used to this environment to make education as ubiquitous as possible. Furthermore, the rising of internet made open and distance learning a means of receiving education from all over the world. In a short period, the attractiveness of distance learning led to the realization that various mobile devices provide effective resource for teaching and learning (Miangah & Nezarat; 2012).

## 2. AIMS OF THE STUDY

1. To investigate the phenomenon and the impact of Mobile Assisted Language Learning on English language skills.
2. To explore the salient features and drawbacks of Mobile Assisted Language Learning.
3. To shed light on the current perspectives and the future of Mobile Assisted Language Learning.

## 3. THE CONCEPT OF MOBILE ASSISTED LANGUAGE LEARNING

Mobile phones have became an important component in the world especially in the field of education, therefore there is need to think of using this technology in language learning activity. The rapid use of mobile technology has attracted the attention of researchers and paved the way of emerging the field of (MALL) and (M-Learning) to support the process of language learning. Ogata et al. (2010) state that "*computer assisted mobile learning uses lightweight devices such as personal digital assistant (PDA), cellular mobile phones, and so on*" (p.8).

According to Miangah & Nezarat (2012:309) ''*Mobile-Assisted Language Learning (MALL) deals with the use of mobile technology in language learning. In contrast to classroom learning, in MALL there is no need for the learners to sit in a classroom or at a computer to get learning materials. In fact, MALL can be considered an ideal solution to language learning barriers in terms of time and place''*.

Pachler, Bachmair & Cook (2010, p. 6) defined MALL as "*the processes of coming to know and being able to operate successfully in, and across, new and ever changing contexts and learning spaces with an emphasis on understanding and knowing how to utilize our everyday life-worlds as learning spaces.*"

Miangah & Nezarat (2012:309) have stated that '*the main characteristics of mobile learning (m-learning) are recognized as the potential for learning process to be personalized, spontaneous, informal and ubiquitous. Although learning through mobile phones may take longer time compared to computers, the learners feel a greater sense of freedom of time and place, so that they can take the advantage of spare time to learn a second language when and where they are'*.

Nowadays MALL supports the preservation and utilization of newly acquired language skills and serves as a main source of language education for learners. Learners are able to maintain their linguistic talents sharp while reducing the risk of degradation of valuable knowledge, skills and abilities through using mobile in short exercises and tasks.

According to Wood (2003) the term mobile learning (m-learning) refers to the use of mobile and handheld IT devices, such as PDAs, mobile phones, laptops and tablet PCs, in teaching and learning. Pachler and Cook (2010, p. 6) define M-learning as "*the processes of coming to know and being able to operate successfully in, and across, new and ever changing contexts and learning spaces with an emphasis on understanding and knowing how to utilize our everyday life-worlds as learning spaces.*"

As seen from the above definitions of MALL, the employment of mobile technologies differentiates mobile learning from other forms of learning. Therefore, if learning process happens via or with a mobile device away from traditional learning environment, then it is Mobile assisted language learning.

## 4. THE IMPACT OF MOBILE ASSISTED LANGUAGE LEARNING ON ENGLISH LANGUAGE SKILLS

Mobile is a significant tool that supports and integrates effectively in enhancing the language skills. Sharples, Milrad, Arnedillo-Sánchez, & Vavoula, (2009:2) state that MALL assists in '*linking people in real world and virtual worlds, creating learning communities between people on the move, providing expertise on demand, and supporting a lifetime of learning'*.

Viberg & Grönlund (2012) found that most of MALL studies focus on vocabulary acquisition, listening and speaking skills, and language acquisition. They also found that studies on grammar learning, pronunciation, and writing skills are underrepresented. In addition, Viberg & Grönlund (2012) state that MALL researchers have devoted less attention to individuals' language learning strategies and learning styles. Mobile technology has become an important tool in the teaching and learning process. Many studies (Ally, 2009; Dias, 2002; Dickey, 2001; Green, Collier, & Evans, 2001;Twarog & Pereszlenyi- Pinter,1988; ) have shown an explosion of interest in using Mobile devices for English language teaching and learning .

Twarog and Pereszlenyi- Pinter (1988) used Mobiles to provide assistance and feedback to distant language learners. According to Green, Collier, & Evans (2001) in 1996, English teachers at Brigham Young University-Hawaii taught a distance-learning English course from Hawaii to Tonga via Mobile and computer. Dickey (2001) conducted a study to teach an English conversation course in South Korea by utilizing teleconferencing. MALL permits learners to access to the desired learning materials. Wi-Fi technology in mobile devices allows learners to access supplementary learning materials from the Internet Teachers can use mobile devices to communicate and send learning materials to their learners anytime (Ally, 2009). Dias (2002a, 2002b) set up a web-board accessible by mobile devices to afford links to English language learning websites. Learners were able to communicate with each other, their teachers and any guest lecturers asynchronously. Yedla (2013:92) states that '*The main aim of the technology is advancing and enhancing the classroom teaching especially to enhance group teaching to self-learning. The experience of independent learning may encourage the students to continue the learning process on their own in English language communication skills for their future purpose'*.

MALL applications can facilitate learners in interacting with others collaboratively anytime and anywhere. Hence, the development of MALL as a new approach for education has implications for the way students and tutors in educational institutions interact (Huang, Hwang, & Chang, 2010).

Oberg & Daniels (2013) conducted a study on the effect a student-centred mobile learning instructional method has on language acquisition based on the use of Apple's iPod Touch personal mobile devices to deliver content compared with a group oriented instructional method of content delivery in terms of learner acquisition of course material. The findings indicate that there is significant difference between the groups, hence the experimental group scored consistently higher than the control group. Finding also indicates that learners have positive attitudes towards the self-study iPod Touch-based instructional method.

The m-learning games can also be used to teach second language skills such as vocabulary, pronunciation, grammar, listening and reading comprehension and spelling. There are other strategies for learning vocabulary via mobile phones. Learners can be provided with some tailored vocabulary practices based on activities performed in the classroom. They were asked to complete them on their mobile phones and send them back to their instructors. Learning vocabulary can also be accompanied by the pictorial annotation shown on learners' mobile devices for better understanding of new words. In a study conducted by Chen, et al., learners were provided with verbal as well as pictorial annotation for learning English vocabulary. Results of a post-test showed that the pictorial annotation assisted learners with lower verbal and higher visual ability to retain vocabulary (Chen & Hsu 2008).

The application of mobile-assisted vocabulary learning would be highly practical and convenient for language learners. Such practice will contribute to meaningful vocabulary learning when the learning process is integrated with social, cultural and life contexts (Chen & Li, 2010). Thornton &Houser (2005) conducted a study to compared the effect of different vocabulary learning modes, one using paper material and the other supported by mobile phones and the findings revealed that mobile phone group gained significantly more vocabulary than the paper group.

## 5. SALIENT FEATURES OF MOBILE ASSISTED LANGUAGE LEARNING

The developments of mobile technologies have paved the way of possibilities in the area of language learning.

Educators (Ally, 2004; Holliday, 1999; Roschelle, 2003; Sharples, 2002; Sharples, Taylor, & Vavoula, 2010) indicate that the mobile technology has many significant advantages for second language learning. Mobile devices can integrated in a great variety of learning situations, learners can be simultaneously engaged in activities that are both social and informatic in nature (Roschelle, 2003). According to Ally (2004) that there is increase in the number of wireless Internet services subscribers. Hence, many interactive learning activities Internet-based take place whether accessed via a mobile devices, tablet computer or other device, the educational opportunities provided are vast. A recent European study showed that 52% of daily learning episodes contained the use of at least one piece of electronic technology (Sharples, Taylor, & Vavoula, 2010). In practical terms, this allows the educator to ensure that some human–human interaction remains, fulfilling all of Sharples' three C's of education (Construction (building an understanding), Conversation (with teachers, other learners, selves), and Control (of the process, pursuing knowledge) (Sharples, 2002).

According to Huang and Sun (2010) that two main characteristics of mobile devices are portability and connectivity. As for connectivity, designing the mobile system must have capability of being connected and communicated with the learning website using the wireless network of the device to access learning material ubiquitously including short message service (SMS) and mobile e-mail. Portability enables learners to move mobile devices and bring learning materials.

Kukulska-Hulme. (2009) states that Mobile learning technology is more useful for doing activities outside the classroom. Such activities enable learning to be more directly connected with the real world experiments. Moreover, learning through mobile phones outside the classroom has the advantage of better exploiting the learner's free time; even the students on the move can improve their learning skills.

Jones, Issroff, Scanlon, Clough & McAndrew (2006) have mentioned the following six reasons why MALL is a source of motivation for the learners first is control (over goals), second is the ownership, third fun factor, fourth is communication, fifth is learning-in-context, sixth is continuity between contexts.

Miangah & Nezarat, (2012) state that among all modern communication devices, mobile phones are the most powerful communication medium even richer than email or chat as it can act as a learning device despite its technical limitations. With such a learning device the learner controls the learning process and progress in his/her own space based on his/her cognitive state. Students and tutors can download various kinds of materials through their mobile phones easily, hence Mobile phones have downloading feature. Teachers can download video through their mobile phones also and present them to students through a TV set available in the classrooms (Kafyulilo, 2012).

Common Wealth of learning (2008) and Cui and Wang, (2008) noticed that Mobile phones can be used for sharing information resources through Bluetooth, Wi-Fi. In addition to other applications, including emails, Google drive and social media can equally be used for sharing academic information resources. Teachers can share with students' their teaching materials, movies, audio files and other learning materials through their mobile phones. Most of the mobile phones have features, which can be used for recording and playing multimedia contents.

According to Cui and Wang (2008), universities in United Kingdom have made the use of mobile phones to store and retrieve information such as e-books, instructional materials, reviewing students' marks thus making teaching and learning practices more effective. Koole (2009) has mentioned some factors having key roles in the use of mobile devices in learning environments. Physical characteristics of a mobile phone such as its size and weight as well as input and output capabilities such as keypad vs. touchpad and screen size and audio functions are among the factors, which should

be assessed in this respect. The learner skills and his/her prior knowledge and experience with mobile devices for learning, as well as the learner's attitude towards the learning through mobile phone play a crucial role in the output quality of such a mobile-based tasks.

Zhang, Song & Burston (2011) state that Mobile phone technology has the potential to increase learners' efficiency, especially in situation where self-regulated learners lack the ability to learn well in an autonomous manner.

## 6. DRAWBACKS OF MOBILE ASSISTED LANGUAGE LEARNING

Few studies have focused on MALL, and most current research on mobile devices in English language teaching (ELT) focuses on pre-smart mobile phones (Dias, 2002; Kukulska-Hulme & Shield, 2008; Stockwell, 2007, 2008, 2010; Thornton & Houser, 2002, 2005).

The above mentioned studies mentioned a number of demerits in MALL such as small screen size and added cost (e.g. for extra text messages sent or for accessing the Internet) students' viewing studying with mobile devices outside of the classroom as an intrusion, that studying with mobile phones entails and  text input difficulties. Chinnery (2006) mentioned some limitations of mobile phones that used as educational devices. Such as reduced screen size, limited audiovisual quality, virtual keyboarding, and one-finger data entry are some of these limitations.

## 7. CURRENT PERSPECTIVES OF MOBILE ASSISTED LANGUAGE LEARNING

Winters (2006) stated that the current perspectives on MALL generally fall into the following four broad categories:

1. *Technocentric.* This perspective dominates the literature. Here mobile learning is viewed as learning using a mobile device, such as a PDA, mobile phone, iPod, PlayStation Portable etc.
2. *Relationship to e-learning*. This perspective characterises mobile learning as an extension of e-learning. These definitions are often are all-inclusive and do not help in characterising the unique nature of mobile learning. What is needed is clarity: in agreement with Traxler (2005), the technocentric/e-learning based definitions only seek to place "mobile learning somewhere on e-learning's spectrum of portability".
3. *Augmenting formal education.* In the mobile learning literature, formal education is often characterised as face-to-face teaching, or more specifically, as a stereotypical lecture. However, it is not at all clear that this perspective is wholly correct. Forms of distance education (for example, distance correspondence) have existed for over 100 years (Peters, 1998), leading to the questions regarding the place of mobile learning in relation to all forms of "traditional" learning, not only the classroom.
4. *Learner-centred.* A strong linage of research into conceptualising mobile learning is traceable by reviewing the combined works of Sharples, Taylor, O'Malley and their colleagues. In their early research, the concept of mobile learning was strongly linked to the device (Sharples et al., 2002) and the potential for enabling lifelong learning (Sharples, 2000). However, it soon became clear that rather than the device, the focus should be on the mobility of the learner. This led to considering mobile learning from the learner's perspective, and to the definition that: "Any sort of learning that happens when the learner is not at a fixed, predetermined location, or learning that happens when the learner takes advantage of learning opportunities offered by mobile technologies" (O'Malley, Vavoula, Glew, Taylor, Sharples & Lefrere, 2005). Current work (Sharples, 2005; Taylor, Sharples, O'Malley, Vavoula & Waycott, 2006) is exploring the notion of learning in the mobile age, to develop a theory of mobile learning that builds on Engeström's conceptualization of Activity Theory and Laurillard's (2002) Conversational Framework. The focus of their work is on mobile learning as communication in context (Sharples, 2005).

## 8. THE FUTURE OF MOBILE ASSISTED LANGUAGE LEARNING

Naismith, Sharples, Vavoula, & Lonsdale (2004) highlighted how the mobile technologies can have a great impact on learning. Learning will move more and more outside of the classroom and into the learner's environments, both real and virtual. Learning will involve making rich connections within these environments to both resources and to other people. In addition to consulting internet-based resources on the move, learners will be able to manage the administration of their learning through consultations with their personal diaries and institution-based virtual learning environments.

The challenge for the educators and technology developers of the future will be to find ways to ensure that this new learning is highly situated, personal, collaborative and long term; in other words, truly learner-centred learning.

Educators will need to adapt from a role as transmitters of knowledge to guiders of learning resources. Technology developers will need to respond to concerns of security and privacy while designing devices and services that learners want and will pay for.

Whether they are welcome right now or not, mobile devices are finding their way into classrooms in children's pockets, and we must ensure that educational practice can include these technologies in productive ways. In the future, the success

of learning and teaching with mobile technologies will be measured by how seamlessly it weaves itself into our daily lives, with the greatest success paradoxically occurring at the point where we do not recognise it as learning at all.

## 9. CONCLUSION

In fact, it was a challenging affair to cover learning tasks by a mobile phone. Mobile devices have rapidly developed to become tools for learning the languages. Mobile technology has played a significant role to support language learning due to its salient features of MALL, including portability, social interactivity, context sensitivity, connectivity, individuality, and immediacy. Due to the expansion of wireless and mobile technologies, MALL exists through numerous devices such as Smart phones, mobile phones, iPods, tablet PCs, hand-held computers, PDAs, and MP3 players. With the expansion of mobile technology, mobiles will play a more essential role in learning of English language. They are powerful tools and can bear almost the same functions as personal computers.

Many studies have shown an explosion of interest in using Mobile devices for English language teaching and learning, hence most of MALL studies focus on vocabulary acquisition, listening and speaking skills, and language acquisition. Researchers also found that studies on grammar learning, pronunciation, and writing skills are underrepresented. In spite of many studies have been conducted in M learning as a growing field of study in language learning, there are need to conduct more studies in the field of MALL.

We should admit that mobile devices are finding their way into classrooms in children's pockets, and we must ensure that educational practice can include these technologies in productive ways.

## 10. REFERENCES

[1] Ally, M. (Ed.). (2009). *Mobile learning. Transforming the delivery of education and training*. Edmonton: AU Press.

[2] Andrew Oberg & Paul Daniels (2013) Analysis of the effect a student-centred mobile learning instructional method has on language acquisition, *Computer Assisted Language Learning, 26*:2, 177-196.

[3] Attewell, J., & Webster, T. (2004). Engaging and supporting mobile learners. In *Proceedings of MLEARNING 2004: Mobile learning anytime everywhere* (pp. 15-20). London, UK: Learning and Skills Development Agency.

[4] Bachmair, B., Pachler, N., and Cook, J. (2009). *Mobile phone as cultural resources for learning: an analysis of educational structures, mobile expertise and emerging cultural practices.* In J. Bang, & Ch. Dalsgaard (Eds.), *Media in the knowledge society: Special Issue of journal Learning and Media*, (pp. 1-29). MedienPädagogik.

[5] Beatty, K. (2003). *Teaching and researching computer-assisted language learning*. Essex, England: Pearson Education Limited.

[6] Chen, C. M. & S.-H. Hsu. (2008). "Personalized Intelligent Mobile Learning System for Supporting Effective English Learning". *Educational Technology & Society*, *11* (3), pp. 153-180.

[7] Chen, C.-M., & Li, Y.-L. (2010). Personalized context-aware ubiquitous learning system for supporting effective English vocabulary learning. Interactive Learning Environments, 18, 341–364. doi:10.1080/10494820802602329

[8] Chinnery, G. (2006). Emerging Technologies - Going to the MALL: Mobile Assisted Language Learning. *Language Learning & Technology, 10*(1), 9-16.

[9] Colpaert, J. (2004). From courseware to coursewear? *Computer Assisted Language Learning, 17*, 261-266.

[10] Commonwealth of Learning (2008).Using of mobile technology for learner support in open schooling. Retrieved on 6- February -2014 from www.paddle.usp.ac.fj/collect/ paddle /index/assoc/col008.dir/doc.pdf.

[11] Cuing, G., and Wang, S. (2008).Adoption cell phones in EFL Teaching and Learning. *Journal of educational technology development and exchange, 1* (1), 69-80

[12] Dias, J. (2002, a) Cell phones in the classroom: Boon or bane? [Part 1]. *C@lling Japan: The Newsletter of the JALT-CALL Special Interest Group, 10*(2), 16-22.

*[13]* Dias, J. (2002b) Cell phones in the classroom: Boon or bane? [Part 2]. *C@lling Japan: The Newsletter of the JALT-CALL Special Interest Group, 10*(3), 8-13.

[14] Dickey, R.J. (2001). Make it a conference call: An English conversation course by telephone in South Korea. In L.E. Henrichsen (Ed.), *Distance-learning programs* (pp. 51-60). Alexandria, VA: Teachers of English to Speakers of Other Languages, Inc.

[15] Green, B.A., Collier, K.J., & Evans, N. (2001). Teaching tomorrow's class today: English by telephone and computer from Hawaii to Tonga. In L.E. Henrichsen (Ed.), *Distance-learning programs* (pp. 71-82). Alexandria, VA: Teachers of English to Speakers of Other Languages, Inc.

[16] Huang, C. and P. Sun. (2010). Using mobile technologies to support mobile multimedia English listening exercises in daily life. *The International Conference on Computer and Network Technologies in Education.*

[17] Huang, Y.-M., Huang, Y.-M., Huang, S.-H., Lin, Y.-T. (2012) A ubiquitous English vocabulary learning system: Evidence of active/passive attitudes vs. usefulness/ease-of-use. Computers and Education, 58, 273-282.

[18] Huang, Y.-M., Hwang, W.-Y., & Chang, K.-E. (2010). Guest Editorial – Innovations in Designing Mobile Learning Applications. *Educational Technology & Society*, 13 (3), 1–2

[19] Jones, A., Issroff., K, Scanlon, E, Clough, G and McAndrew, P (2006) Using mobile devices for learning in Informal Settings: Is it Motivating? Paper to be presented at IADIS International conference Mobile Learning. July 14-16, Dublin.

[20] Kafyulilo, A. (2012). Access, use and perceptions of teachers and students towards mobile phones as a tool for teaching and learning in Tanzania. *Education and Information Technologies.* 1-13

[21] Klopfer, E., Squire, K., & Jenkins, H. (2002). Environment detectives: PDAs as a window into a virtual simulated world. *Proceedings of IEEE International Workshop on Wireless and Mobile Technologies in Education.* Vaxjo, Sweden: IEEE Computer Society, 95-98.

[22] Koole. M. (2009). "A model for framing mobile learning" . In M. Ally (Ed.), Mobile learning: Transforming the delivery of education & training, pp. 25–47. Athabasca: AU Press.

[23] Kukulska-Hulme, A., Shield, L. (2008). An overview of mobile assisted language learning: From content delivery to supported collaboration and interaction. ReCALL, 20(3), 271-289.

[24] Kukulska-Hulme. A. (2009). "Will mobile learning change language learning?" *ReCALL 21*(2), pp. 157-165.

[25] Laurillard, D. (2002) Rethinking University Teaching: a conversational framework for the effective use of learning technologies. Routledge-Falmer, London.

[26] Miangah, T. M., & Nezarat, A. (2012). Mobile-assisted language learning. *International Journal of distributed and Parallel System*, *3*, 309-319.

[27] Miangah, T.M., & Nezarat, A. (2012). Mobile-Assisted Language Learning. *International Journal of Distributed and Parallel Systems 3*,309-319

[28] Naismith, L., Sharples, M., Vavoula, G., & Lonsdale, P. (2004). Literature review in mobile technologies and learning. University of Birmingham

[29] O'Malley, C., Vavoula, G., Glew, J., Taylor, J., Sharples, M. & Lefrere, P. (2005) Guidelines for learning/teaching/tutoring in a mobile environment. Mobilearn project deliverable. Retrieved February, 9,2014

[30] Oberg, A., & Daniels, P. (2013). Analysis of the effect a student-centred mobile learning instructional method has on language acquisition. *Computer Assisted Language Learning*, *26*(2), 177-196.

[31] Ogata, H., Yin., C., El-Bishouty, M. M. and Yano, Y. (2010). Computer supported ubiquitous learning environment for vocabulary learning. International Journal of Learning Technology, 5 (1), 5-24.

[32] Pachler, N., Bachmair, B., & Cook, J. (2010). Mobile Learning: Structures, Agency, Practices. London: Springer

[33] Sharples, M. (2005) Learning as conversation: Transforming education in the mobile age, Proceedings of Seeing, Understanding, Learning in the Mobile Age, pp. 147–152.

[34] Sharples, M., Arnedillo-Sánchez, I., Milrad, M., & Vavoula, G. (2009). Mobile Learning: Small devices, Big Issues. In N. Balacheff, S. Ludvigsen, T. de Jong, A. Lazonder, & S. Barnes (Eds.), *Technology Enhanced Learning: Principles and Products* (pp. 233-249). Heidelberg: Springer.

[35] Sharples, M., Corlett, D. & Westmancott, O. (2002) The design and implementation of a mobile learning resource, *Personal and Ubiquitous Computing, 6*, 220–234.

[36] Soloway, E., Norris, C., Blumenfeld, P., Fishman, B., Krajcik, J., & Marx, R. (2001). Log on education: Handheld devices are ready-at-hand. *Communications of the ACM, 44*(6), 15-20.

[37] Stockwell, G. (2007). Vocabulary on the move: Investigating an intelligent mobile phone based vocabulary tutor. *Computer Assisted Language Learning, 20,* 365–383.

[38] Stockwell, G. (2008). Investigating learner preparedness for and usage patterns of mobile learning. *ReCALL, 20*, 253–170.

[39] Stockwell, G. (2010). Using mobile phones for vocabulary activities: Examining the effect of the platform. *Language Learning & Technology, 14,* 95–110.

[40] Taylor, J., Sharples, M., O'Malley, C., Vavoula, G. & Waycott, J. (2006) Towards a task model for mobile learning: a dialectical approach. International Journal of Language Technology, *2* (2), 138-158.

[41] Thornton, P., & Houser, C. (2002). M-learning: Learning in transit. In P. Lewis (Ed.), *The changing face of CALL*: *A Japanese perspective* (pp. 229–243). the Netherlands: Swets & Zeitlinger.

[42] Thornton, P., & Houser, C. (2005). Using mobile phones in English education in Japan. *Journal of Computer Assisted Learning, 21*, 217–228.

[43] Thornton, P., & Houser, C. (2005). Using mobile phones in English education in Japan. *Journal of Computer-assisted Learning*, 21(3), 217–228.

[44] Twarog, L., & Pereszlenyi-Pinter, M. (1988). Telephone-assisted language study and Ohio University: A report. *The Modern Language Journal, 72*, 426-434.

[45] Viberg, O., & Grönlund, A. (2012). Mobile assisted language learning: A literature review. In M.Specht, M.Sharples & J.Multisilta (Eds), *Proceedings of the 11th International Conference on Mobile and Contextual Learning*, mLearn 2012, Helsinki, Finland, October 16 -18, 2012, pp.9-16.

[46] Winters, N. (2006). What is mobile learning? In Sharples, M.(Ed). Big Issues in Mobile Learning. 5-10. University of Nottingham.

[47] Yedla, S. MALL (Mobile Assisted Language Learning): A Paradise for English Language Learners. *Journal of English Language & Translation Studies,1*(2), 91-99.

[48] Zhang, H., Song, W., & Burston, J. (2011). Reexamining the effectiveness of vocabulary learning via mobile phones. *TOJET*, 10(3), 203-214.