A Conceptual Framework of Blended Learning for Self-Directed Learners in the Social Context: Case of Mobile Learning

Wan Abdul Rahim Wan Mohd Isa[1], Zulinda Ayu Zulkipli[2], Mimi Nurakmal Mustapa[1]

[1]*Faculty of Computer and Mathematical Sciences, University Teknologi MARA, 40450 Shah Alam, Selangor, Malaysia*
[2]*Fakulti of Education, Universiti Teknologi MARA Selangor, Kampus Puncak Alam, 42300 Bandar Puncak Alam, Selangor, Malaysia*
[1]*E-mail: wrahim2@tmsk.uitm.edu.my*

ABSTRACT

Currently, the factors for adopting m-learning revolve around higher education settings. However, the factors surrounding different cultural and background context of the user in using m-learning in different contexts are not fully explored, especially in the social context. Thus, there are needs to understand blended learning for self-directed learners from different communities. The main objectives of this paper are (i) to develop a conceptual framework of blended learning for self-directed learners in the social context by using mobile learning as the case study and (ii) to provide recommendations for improving m-learning for self-directed learners. The adapted conceptual framework which consists of (i) learner aspects, (ii) device aspects and (iii) the social aspects, was used in this study. A survey was conducted with 190 respondents who have experience in using mobile devices for self-directed learning and their qualitative responses were recorded. The preliminary descriptive results are presented to understand the user's background and qualitative responses in supporting the recommendations related to (i) learner's aspects, (ii) device aspects and (iii) the social aspects, as suggested in the conceptual framework.

Keywords: *blended learning; mobile learning, self-directed learners*

INTRODUCTION

There are needs to understand the strategies and potential of blended learning in the ideals of higher education (Garrison & Vaughan, 2011; Inoue, 2009), which include different perspectives of academicians, designers and learners worldwide (Stacey & Gerbic, 2009; Ng, 2010). Currently, the principles and practices are influenced by western culture, as visibly seen in cases and examples illustrated in different cases and organisations (Garrison & Vaughan, 2011; Kitchenham, 2011; Latchem & Jung, 2009; Torun, 2009). However, there are also significant cultural differences in Western and Asian ways of communicating that may affect blended learning (Latchem & Jung, 2009). Other issues associated with blended learning are ethical issues, such as (i) privacy and confidentiality online, (ii) digital rights, (iii) the ethics of access and (iv) the implications of teleworking (Littlejohn & Pegler, 2007). Studies have confirmed two leaders in the self-construct philosophy, namely, self-directed learning (SDL) and self-regulated learning (SRL) (Cosnefroy & Carré, 2014).

Currently, the factors for adopting m-learning revolve around higher education settings (Liu, Li & Carlsson, 2010; Wan Mohd Isa, Mohd Lokman, Md Noor, Manggi & Mat Sah, 2015; Wan Mohd Isa, 2016). However, the factors surrounding different cultural and background context of the user in using m-learning in different contexts (Liu, Li & Carlsson, 2010) are not fully explored, especially in the social context. Thus, there is a need to understand blended learning for self-directed learners from different communities. The main objectives of this paper are (i) to develop a conceptual framework of blended learning for self-directed learners in the social context, by using mobile learning as the case study and (ii) to provide recommendations for improving m-learning for self-directed learners.
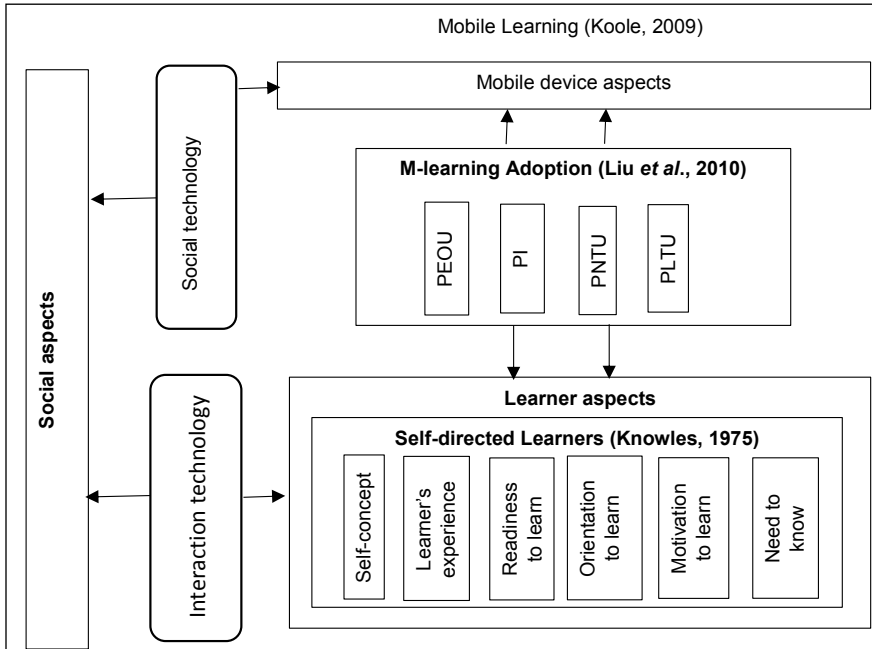
CONCEPTUAL FRAMEWORK

Figure 1: A conceptual framework of blended learning for self-directed learners in the social context: case of mobile learning (Adapted from (Liu, Li & Carlsson, 2010; Koole, 2009; Knowles, 1975)

Figure 1 illustrates a conceptual framework of blended learning for self-directed learners in the social context by using mobile learning as the case study. The elements in the framework are adopted from Koole's FRAME model that consists of (i) the learner aspects, (ii) the social aspects and (iii) the device aspects. The Koole's FRAME is a holistic framework to support mobile learning application for self-directed learners. In the original model, the overlapping elements are depicted as interaction technology, social technology and device usability. Individual's emotion, memory, motivation, knowledge, abilities (cognitive), towards adopting the m-learning are also taken into account. These aspects also draw upon learning theories related to relevant transferring and learning (knowledge), as what self-directed learner's concept is all about (Koole, 2009).

Learner aspects

The characteristics of self-directed learners include (i) self-concept, (ii) learner's experience, (iii) readiness to learn, (iv) orientation to learn, (v) motivation to learn and (vi) need to know (Knowles, 1975). From the perspectives of the learner aspects, this is where the Knowles (1975) model could be applied. There are six assumptions of self-directed learners' behaviour made by Knowles, as shown in Table 1. These assumptions are integrated with Koole's (2009) model in terms of the learner aspect with the adapted factors by Liu *et al.*, (2010) to support the conceptual framework of m-learning for self-directed learners. The learner aspects will also include learner's background, demographic profiling, characteristics and preferences.

Device aspects

Device aspects (such as screen size, technology, manufacturer, portability and weight) need to be considered in order to be well suited with learners from various backgrounds (such as the elderly, disable users, female, pre-school children and university students). The device aspects are considered important to be included as there are in existence various issues relating to learners accessing offline digital content, as well as digital divide among urban and rural communities and others.

Social aspects

The main characteristic of the social aspects, is that the learner should be able to participate in a conversation, to communicate and work in a group or community. Thus, m-learning educators can promote m-learning to potential early adopters who tend to have a higher level of personal innovation in IT than do others (Agarwal *et al,* 1998). The social aspects may include family, friends, community, group and organisation.

RESEARCH METHOD

The main objectives of this paper are: (i) to develop a conceptual framework of blended learning for self-directed learners in the social context by using mobile learning as the case study and (ii) to provide recommendations for improving m-learning for self-directed learners. The adapted conceptual framework consists of (i) learner aspect, (ii) device aspects and the social aspects. The method involved a survey conducted from April to May 2015 with 190 respondents who have experience in using mobile devices for self-directed learning. Qualitative responses from the respondents were also gathered. The preliminary results are presented by using descriptive statistics and qualitative results to provide recommendations related to learner aspects, device aspects and the social aspects, as suggested in the conceptual framework.

RESULTS AND ANALYSIS

Learner Aspects

Presented in this section, are the respondents' demographic profiles (gender, age, education, field of study, current occupation and sector of their occupation). As shown in Figure 2, 72.0 per cent or 137 of the respondents are female and 28 per cent are male.
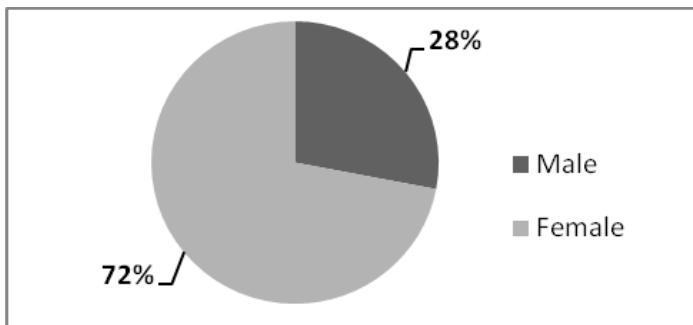
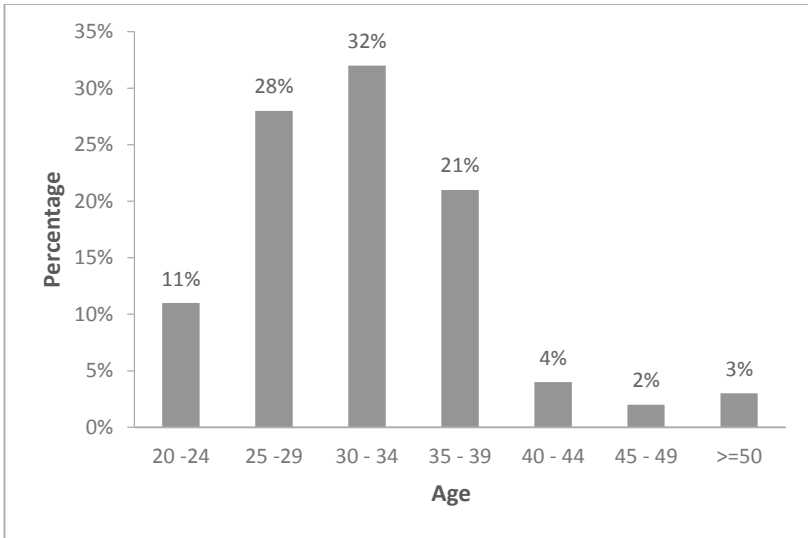

Figure 2: Gender distribution among respondents

Figure 3: Respondents' age

All respondents are above 18 years old, with 28 per cent falling under the age group of between 25 to 29 years old, while 32 per cent are 30 to 34 years old and 21 per cent are between 35 to 39 years old, as shown in Figure 3.
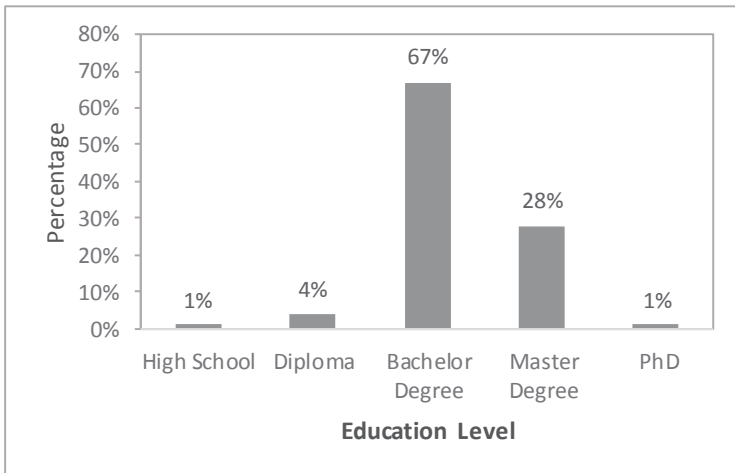

Figure 4: Respondents' highest education level

In terms of the highest level of education, 67.7 per cent of the respondents have at least Bachelor Degree, while 28 per cent have Master's degree. Only four per cent have diploma qualifications as shown in Figure 4.
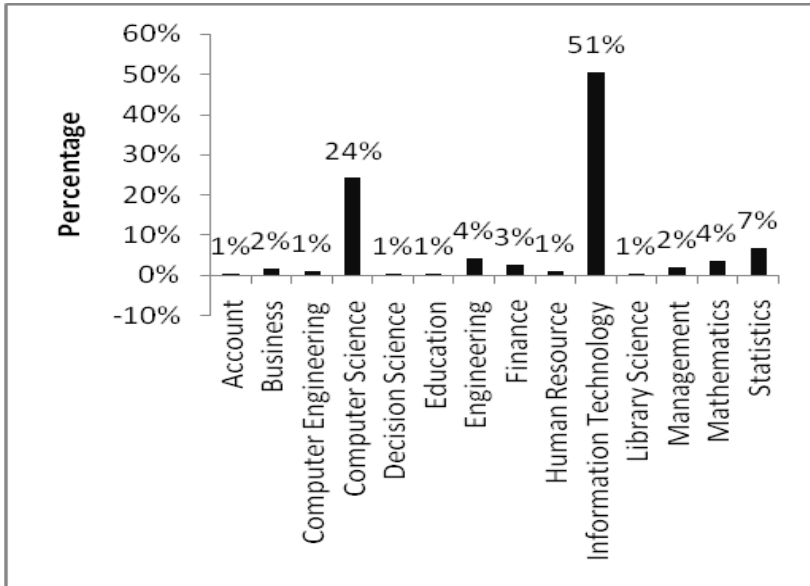

Figure 5: Respondents' background of study

Figure 5 shows that 51 per cent of the respondents graduated in IT field, followed by 24 per cent in computer science.
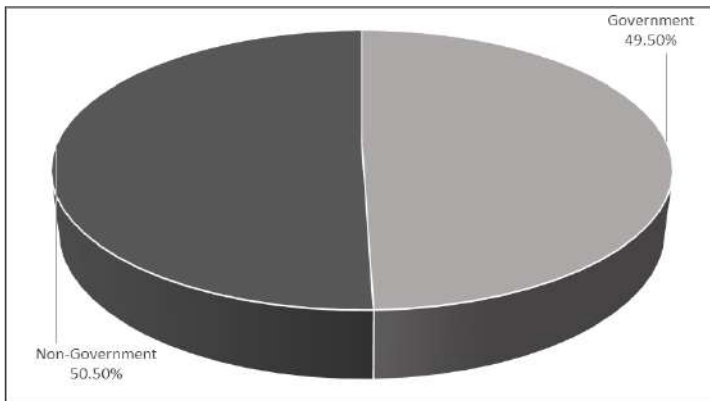

Figure 6: Respondents' sector of occupation

Figure 6 shows that 49.5 per cent of the respondents are employed in the government sector while the other 50.5 per cent are from the non-government sector.
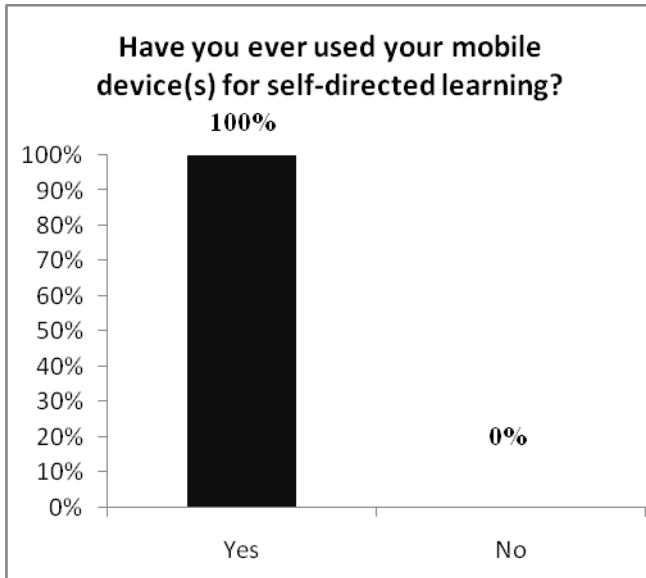

Figure 7: Respondents' answer on the actual usage of m-learning for self-directed learners

To ensure that the data collected is significant for this study, in the questionnaires, the respondents were asked whether they have used their mobile devices for self-directed learning. This study did not consider the data from respondents who responded 'No' to this particular question because they were not m-learning self-directed learners. The rest of the other questions in the questionnaire are related to respondents' experience in using mobile devices for self-directed learning. Therefore, as shown in Figure 7, 100 per cent of the respondents had given the answer 'Yes' to the question on whether they have used their mobile devices for self-directed learning, thus the data is valid for this study.
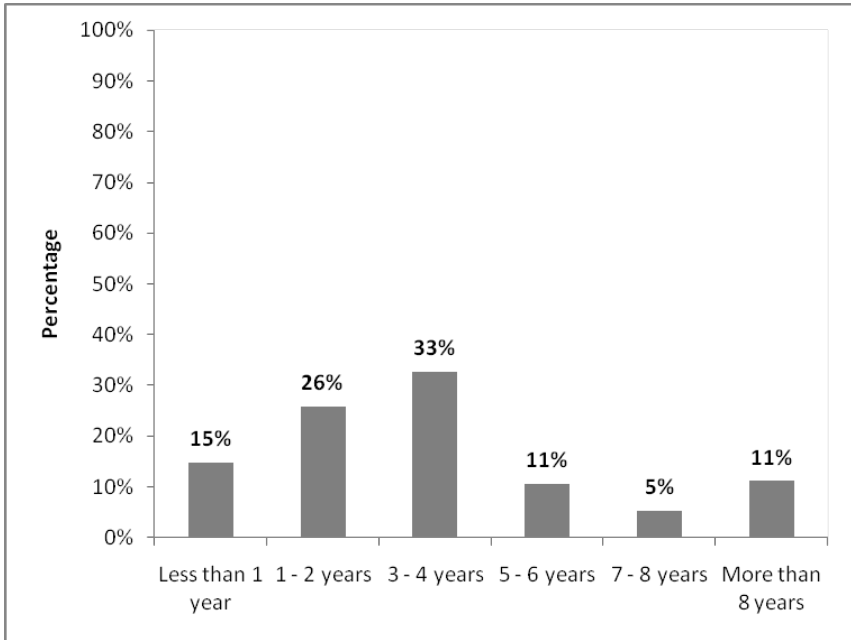
Figure 8: Respondents experience in mobile learning

Figure 8 shows the percentage of the respondents with experienced in using mobile learning (m-learning) for self-directed learning. A total of 33 per cent of the respondents have been using m-learning for self-directed learning from three to four years, while 26 per cent have experience in m-learning for at least one to two years, with 15 per cent having experience in m-learning for self-directed learning of less than a year. Those with more years of experience consist of 11 per cent having of five to six years of experience, and only five per cent have seven to eight years of experience in m-learning for self-directed learning.
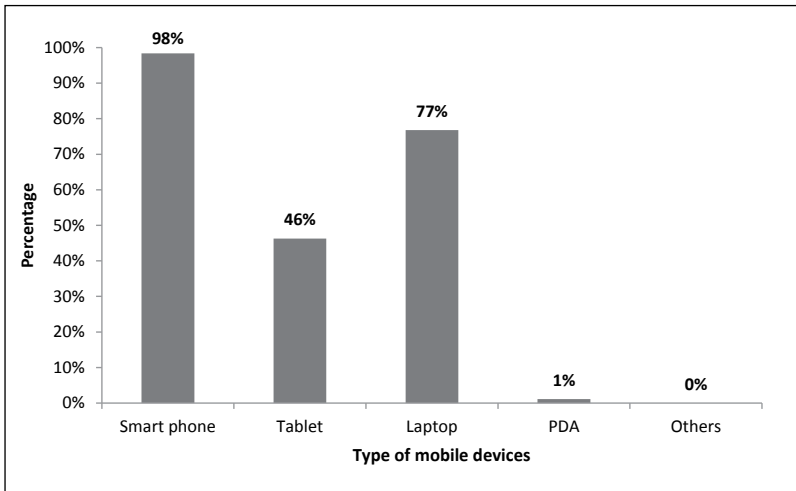
Figure 9: Respondents' mobile devices ownership

Figure 9 shows the types of mobile devices own by the respondents. Almost all or 98 per cent own Smartphones. The second most owned devices among the respondents are laptops with 77 per cent owning laptops. The high percentage for laptop ownership indicates that people are moving towards mobility rather than having terminal devices such as desktop computers. The third most owned devices are tablets, with about 46 per cent owing such devices. Only one per cent of the respondents have access to Personal Digital Assistant (PDA).
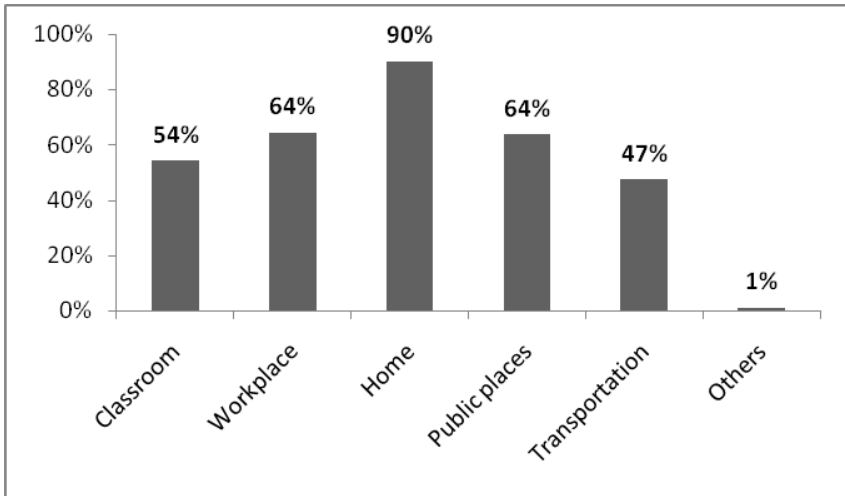
Figure 10: Respondents' preferred places of using m-learning for self-directed learners

Figure 10 shows a total of 90 per cent of the respondents choose to use m-learning at home. This may be due to the preferred environment that they have at home, which encouraged them to use their mobile devices for m-learning. The workplace and public places came in second as the most preferred places among the respondents to use m-learning as these places sometimes offered free Wi-Fi service. About 54 per cent of the respondents choose classroom as their preferred place to use m-learning while 47 per cent used m-learning during their ride in cars, flights, train and buses. Only one per cent of the respondents chose 'Others' as their preferred place to use m-learning.

Qualitative responses

For the open-ended question, the respondents were also asked "What are your recommendations towards improving m-learning for self-directed learners?" This question is purposely formulated to meet the second objective of this study, which is to solicit recommendations for improving the adoption of m-learning for self-directed learners. This question is important as users can give various opinions on how to improve the adoption of m-learning among self-directed learners. Among the responses, several

answers have been selected based on the background of the respondents. Respondents with more than seven years of experience in using mobile devices for self-directed learning were selected because they are experienced users, and their responses would be the most significant. The lists of the few selected respondents' qualitative recommendations (relevant to learner aspects, device aspects and the social aspects) are as follow:

(i)   Learner Aspects

"Local education contents (especially in the Malay language) are needed more as these will encourage various levels from younger generation to the elderly to adopt m-learning as self-directed learners."

(ii)   Device Aspects

"In terms of mobile application, some respondents suggested that the application should use more Graphical User Interface (GUI), User Interface (UI) and User Experience (UX) designs so that the application is more appealing, user-centric and interesting".

(iii) Social Aspects

"M-learning for self-directed learners should be implemented in education institutions to train students to be more independent".

"The encouragement and support given by the government and private sector will induce more mobile learning applications in the market as well as creating digital learning environment."

"Parents can also play their roles by encouraging their children to adopt m-learning from the very young age so that they will become more independent, looking out for knowledge and skills when they grow up."

CONCLUSION

The main objectives of this paper are (i) to develop a conceptual framework of blended learning for self-directed learners in the social context by using mobile learning as the case study and (ii) to provide recommendations for improving m-learning for self-directed learners. The adapted conceptual framework which consists of (i) learner aspects, (ii) device aspects and the social aspect was used in this study. A survey was conducted on 190 respondents who had experience in using mobile devices for self-directed learning and their qualitative responses were recorded. The preliminary descriptive results are presented to understand the user's background and qualitative responses in supporting the recommendations related to (i) learner aspects, (ii) device aspects and (iii) the social aspects, as suggested in the conceptual framework.

ACKNOWLEDGEMENT

REFERENCES

Agarwal, R. and Prasad, J. (1998). A conceptual and operational definition of personal innovativeness in the domain of information technology. *Information Systems Research, 9*(2), 204-215.

Cosnefroy, L., and Carré, P. (2014). Self-regulated and self-directed learning: Why don't some neighbors communicate? *International Journal of Self-Directed Learning, 11*(2), 1-12.

Garrison, D. R., and Vaughan, N. D. (2011). *Blended Learning in Higher Education: Framework, Principles, and Guidelines*. USA: John Wiley & Sons.

Inoue, Y. (2009). *Cases on Online and Blended Learning Technologies in Higher Education: Concepts and Practices*. USA: Information Science Reference.

Kitchenham, A. (2011). *Blended Learning Across Disciplines: Models for Implementation*. Hershey, PA: Information Science Reference.

Knowles, M. S. (1975). *Self-directed Learning: A Guide for Learners and Teachers.* New York: Association Press.

Koole, M. L. (2009). A model for framing mobile learning. Mobile learning: transforming the delivery of education and training. In Mohamed Ally, *Mobile Learning: Transforming the Delivery of Education and Training.* Edmonton: Athabasca University Press.

Latchem, C. and Jung, I. (2009). *Distance and Blended Learning in Asia.* UK: Routledge.

Littlejohn, A. and Pegler, C. (2007). *Preparing for Blended E-learning.* UK: Routledge.

Liu, Y., Li, H., and Carlsson, C. (2010). Factors driving the adoption of m-learning: An empirical study. *Computers & Education, 55*(3), 1211-1219. http://doi.org/10.1016/j.compedu.2010.05.018.

Ng, E. M. W. (2010). *Comparative Blended Learning Practices and Environments*. USA: Information Science Reference.

Stacey, E. and Gerbic, P. (2009). *Effective Blended Learning Practices: Evidence-Based Perspectives in ICT Facilitated Education*. USA: Information Science Reference.

Torun, F. (2009). *From E-Learning to Blended Learning.* Germany: GRIN Verlag.

Wan Mohd Isa, W. A. R., Mohd Lokman, A., Md Noor, N. L., Manggi, C. N. and Mat Sah, I. N. (2015, May). *Exploring M-Learning Adoptions Dimensions*. Paper presented at Proceedings of the 25th International Business Information Management Conference (IBIMA) 2015, Amsterdam.

Wan Mohd Isa, W. A. R. (2016). A conceptual model of m-learning adoptions. *ARPN Journal of Engineering and Applied Sciences, 11*(3), 1978 – 1982.