FACTOR INFLUENCE POSTGRADUATE STUDENTS MOBILE LEARNING EXPERIENCE IN MOBILE LEARNING PLATFORM

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ABSTRACT- Mobile Learning (M-learning) has great potential to be an effective learning tool in creating meaningful learning experiences. The purpose of this study is to explore the factors influence postgraduate students M-learning experiences in Massive Open Online Courses (MOOCs) as a platform. This study used the purposive sampling method in choosing 34 Instructional Technology (IT) postgraduate students from one of the public universities in Malaysia. Data were gathered based on a qualitative methodological approach, via reflective practices, learning logbooks and semi-structured interviews based on the students M-learning experiences from the FutureLearn platform online classes. The data were analysed using thematic analysis procedures where it was read carefully to understand emerging themes. The finding of the study identified six themes contributed to the factors influences on M-learning experience. The factors namely new learning experience, beneficial M-learning, personal feelings, empowering M-learning, social interaction and empowering mobile devices. This findings also suggested that the students attained meaningful learning experience gained from real-time learning experiences from M-learning platform which help them to distinguish the students ability on their strengths and weakness in managing real-world problems.

Keywords: M-learning factors, M-learning experience, FutureLearn platform, Qualitative studies
I. INTRODUCTION

“Experience are unique and personal to every learners and thus regarded as very subjective in nature” (Law & Sun, 2012, p.479). Learning experience in Mobile learning (M-learning) is exceptional as today learners are always in the mode of ready when coming to mobile. Certainly, M-learning experience in today’s world makes the students feel extra exclusive where massive amounts of information are freely accessible with the palm-size mobile devices ubiquitously. Hence, the rapid growth of M-learning enables to understand the students voice in the process of gaining meaningful learning experience in M-learning platform like Massive Open Online Courses (MOOC). M-learning providing the opportunity to change the existing learning strategies to give students a much flexible approach to managing their learning experiences (Al-Hunaiyyan, Alhajri, & Al-Sharhan, 2018).

Meaningful learning experience appears to be essential in understanding how experience can become a learning experience. This is not about observation, a passive undergoing of something, but involve a learner an active engagement with the environment. “Each learner forms part of the milieu. Enriching it with his or her personal contribution and creating an interaction which becomes the individual as well as to shared learning experience” (Boud & Walker, 1991, p.18).

Mobile technology based education is referred to as M-learning which is described as learning via mobile technology (Christensen & Knezek, 2018). Mobile Technology as an innovation introduced into higher education as a new paradigm (Issham Ismail, Siti Norbaya Azizan & Themmolli Gunasegaran, 2016) is neither independent nor isolated but it is situated in the ecological system of the higher education and connected to its broader systems. The development of mobile technologies is to achieve a new way and optimum learning advantages in university environments (Abachi & Muhammad, 2014). “Many researchers presented strong arguments for the benefits of mobile learning such as mobility, freedom for self-study, facilitation of student instructor communication and interaction and information sharing” (Almaiah, Jalil, & Man, 2016, p.1314). Hence, one of the push effects that make this mobile technology a potential effort for mobile learning is by providing more experiential learning practices with real-time exposure in M-learning platform.

Mobile technology in learning purposes gives learners the ability to learn at their own pace and create meaningful learning experience employed mobile devices. They also have immediate access to any information. Yet, this immediate access is changing the way learners think about work. M-learning has its’ pros and cons. Meaningful learning experience enables the students to diagnose and analyse its’ advantages with an abundance of information at their fingertips and the disadvantages of not falling aside in mobile distraction. An understanding is necessary between the usage of the mobile devices in the informal learning settings which then influences the students learning experiences in the M-learning platform. Therefore, the research question of this study is to explore the factor influences postgraduate students M-learning experiences. It is important to explore the factors influenced student M-learning experiences other than just looking at the usage of mobile devices among the younger generation (Issham Ismail et al., 2016).

II. LITERATURE REVIEW

“Integrating mobile technology into the curriculum increases the level of involvement and learning” (Monti Fonseca et al., 2015, p.13) and it should be integrated better into the students curricula in order to enhance the quality and competency to learn the M-learning with aid of mobile technology (Cibulka & Crane-Wider, 2011). The rise of mobile devices, social media, and open online resources hit worldwide like a storm (Calderón, Meroño, & MacPhail, 2020). Hence, the growth of mobile technology is seen to be significant by allowing the students to be connected at any pace and place. Therefore, this study aimed to discuss the previous literatures that corroborate the evolving factors’ of students M-learning experiences. The factors that influenced the students to obtained meaningful M-learning experience are namely new learning experience, beneficial in M-learning, personal feeling, empowering learning, social interaction and empowering devices.

The first and foremost underlying factor on meaningful M-learning experience is new learning experiences that the students endeavour in the M-learning platform. M-learning via mobile technology (Christensen & Knezek, 2018) makes learning online easier and convenient in acquiring new knowledge (Gedik, Hanci-Karademirici, Kursun, & Cagiltay, 2012; Sung, Chang, & Yang, 2015; Al-Adwan, Al-Adwan, & Berger, 2018). Students become active participants in the learning process, constructing meaning in ways shaped by their own prior knowledge and new experiences (Iji, Abah & Anyor, 2017).

Calderón, Meroño, and MacPhail (2020) conducted a mixed-method study on student-centered digital technology approach among pre-service teacher from Spanish University. One of the findings of this study revealed the effects of the student-centered digital technology among students perceived competence. Hence, the study reported that student-centered digital technology approach was a new learning experience to most and they were initially positive towards using digital technology and social networks for educational purposes.
The second factor influences M-learning experience is beneficial in M-learning. Beneficial in learning gained when a learner have a meaningful learning experience. Meaning, when students started to perceive that mobile learning applications have the potential benefits and capabilities to reduce their workload effectively, give easy way in knowledge acquisition which improve their M-learning performance, then this would reduce resistance to change or adopt the technology (Almaiah & Al Mulhem, 2019).

Visual feedback, video recording, online quizzes, gaming, checking grades, and online communication mode will give positive experiences for the students. For example, the portability and functionality of mobile technology devices provides students with the ability to collect evidence of learning through journaling by photographs and recordings and to document their experience by creating and producing user-generated content (Woodill, 2011). In addition, the work of Snowball and McKenna (2017) imply that the majority of the students felt that the experience of creating podcasts and infographics was beneficial to their learning.

In another study conducted in Australian university by Steel (2012) employed 134 learners used mobile apps and gained insights on the benefit of using mobile apps for foreign language learning. Students in this study comprehended the potential of being able to personalize their learning to achieve learning tasks quickly and easily, spontaneously and habitually, so that time could be used profitably for language acquisition. Besides that, social media tools such as WhatsApp Messenger referred as a free application for smartphones, is beneficial for learning between students, other students, and educators with an increased student participation in both face-to-face and in a distant context (Johnson, Adams Becker, Estrada, & Freeman, 2015; Makoe, 2012). In addition, integration of technology through social media like WhatsApp explicitly focused on creating meaning learning experiences for students (Alqahtani, Bhaskar, Elumalai, & Abumelha, 2018).

The third underlying factor is student personal feelings over one’s learning experiences. Students personal feelings derived from the learning satisfaction that affects them to react to mobile learning technology. Satisfaction with the students learning experience is critical to the success of learners educational experience (Amro, 2014). Students gain a high level of satisfaction (Fisher & Koren, 2007) and enjoyment when they engaged in mobile devices and technology such as playing games (Lee, Parsons, Kwon, Kim, Petrova, Jeong, & Ryu, 2016). These students felt that mobile technology motivated and encouraged (Farrell & Rose, 2008) to perform well while enabling to improve their confidence level (Li & Song, 2018) and reduced their fear on mobile devices usage (Davies, 2014). Learning in mobile devices is more meaningful than using traditional methods (Cook, McAloon, O’Neill, & Beggs, 2012) and its technology is a good tool (Alonso-Martínez, Jiménez-Parra, González-Álvarez, GodosDíez & Cabeza-García, 2019) in teaching and as a learning method in higher education (Perera, Zainuddin, Piaw, Cheah, & Asirvatham, 2020).

A study conducted by Chung, Cheng, Shih, and Lou (2019) explores the impacts of “positive emotions” through an Mobile Application. Several results have been obtained and the relevant result has extracted to support this study such as blended teaching method and the mixed learning program provided the students with diversified learning channel, improvement of students positive emotional literacy, students in the experimental group showed the best positive emotion with confidence in the learning process. Besides that Seligman, (2003) believed that expanding personal positive emotional experience would contribute to personal psychological development and potential development. Positive emotions can broaden thinking and action, help to build personal resources, increase psychological resilience, enhance personal psychological and physiological well-being, and introduce multiple benefits into an individual’s life (Cohn, & Fredrickson, 2009).

The fourth factor is empowering M-learning only will occur when the students gained meaningful M-learning experience. The use of mobile technology is improving access to education and promoting the new way of learning (Valk, Rashid & Elder, 2010). Most of the students found that the digital technology applications used in mobile devices presentation and the associated classroom activities to be more useful and fun, to the extent that they would suggest to offering the activity among other class pupils (Rodis, Aungst, Brown, Cui & Tam, 2016).

The fifth factor is students social interaction gained upon M-learning experience. The communication between students and instructors has greatly improved because of the conduit technological platform. Internet and Wireless Fidelity (WiFi) available almost anywhere and everywhere, enable students to connect with their instructors at any circumstance either via email, social media, and online classroom tools (Chen, 2010). For example, digital whiteboards have been used where the instructors presented lesson on the board automatically gets uploaded to an online class forum (e.g., Blackboard) where students can revisit lessons taught and reference notes to review for further retention as well as announcing post grades and host conversations online in real-time to reinforce course curriculum via discussion. Additionally, social media is now often incorporated in lesson plans or to facilitate interaction. M-learning encourages collaborative learning where students share their ideas (Fu, & Hwang, 2018) and improve connections and relationships between students and instructors (Valk, Rashid, & Elder, 2010) by facilitating communication and interaction.
In a study conducted by Kuimova, Burleigh, Uzunboylu, and Bazhenov (2018) experimenting using the National Research Tomsk Polytechnic University students’ on mobile learning usage for foreign language learning. This study indicated that mobile learning can be helpful learning tools to accelerate learning, encourage both independent and collaborative learning experiences while promoting lifelong learning. In the same line, Jong and Tsai, (2016) described an outdoor social inquiry learning activity through mobile applications, where students acquired and built their knowledge by interacting within a group. In another study, Fu and Hwang, (2018) concluded that engaging students in mobile collaborative learning could support their knowledge acquisition, development of metacognition skills and epistemological belief. More comprehensively, the students engage in communication and collaboration in M-learning would stimulate them to engage in more high-order thinking and in-depth knowledge exploration (Fu and Hwang, 2018).

The last factor is empowering devices gained from the M-learning experience. Convenient (Fisher, & Koren, 2007; Johansson, Petersson, Nilsson, 2013) and portability (Martyn et al., 2014) is a main common statement when the devices have the quality in accessing evidence-based knowledge at anywhere anytime as there is an excellent internet connection or the content is in downloaded form. A good internet connection, high bandwidth, and internet speed play an important role in a student decision to adopt and use M-learning applications. Prior studies have concluded that universities that have a robust technical infrastructure and necessary technical skills are more likely to adopt and employ a new technology (Song, & Kong, 2017). In addition, Buckner and Kim (2012) reiterated, “among the major advantages of mobile devices are that they require substantially less infrastructure and electricity and are capable of reaching even the most isolated audiences” (p.179).

In the study conducted by Al-Emran, Alkhoudary, Mezhuyev, and Al-Emran, (2019) which concerns examining the academics’ attitudes towards the use of M-learning concerning smartphone ownership. This study used a questionnaire survey from eight different universities in Dubai, United Arab of Emirates and has indicated that those who own smartphones were more positive and likely to employ the M-learning system than those who don’t use it. The author added, “this can also refer to the experience that the academics acquired while using mobile devices which is not the case with those who don’t” (p.132).

2.1 Research Framework

The theoretical framework of this study is based on FRAME model and theory of constructivism. The FRAME model reaching the technical characteristics of mobile devices and how it’s related to students learning experiences in terms of device, social and personal dimensions (Koole, 2006). In this model, students gain and create information with M-learning experiences collectively and individually within a context of information. Mobile device allows the students to enjoy the quality of learning by creating the interaction space with information with the aid of technology.

The constructivism theory asserts that postgraduate students by constructing meaning from their experiences and that learners active engagement during studying create wide and flexible learning environments (Vygotsky, 1962). In order for learning to take place, students need to be involved in the learning process (Estepp, Roberts, & Carter, 2012) where they learn through their personal experiences. Students in this study were afforded many opportunities during the M-learning process and task-centered activity to collaborate, participate in discussions, share experiences, and reflect.

III. METHODOLOGY

A qualitative methodology was used in this study to examine the factors influenced by the M-learning experience. Qualitative research yields narrative data and is inductive. The qualitative research worked for this study to understand the voice of the students to find meaning in the M-learning process. Therefore, data sourced like reflective practices (pre-, during and post-reflective practices), learning logbook (daily and weekly) and semi-structured interviews have been employed to capture the students voices on their learning experience. This study used purposive sampling in choosing the 34 postgraduate students from Instructional Technology (IT) course in one of the public universities in Malaysia. The students were engaged in M-learning platform called FutureLearn. The choice of FutureLearn (FLMOOC) as a platform for this research is based on the pedagogically and technologically innovative approaches implemented within this particular MOOC platform. An online course which is ‘Blended Learning: Getting Started’ from FutureLearn platform is used. The whole process of this M-learning process lasted up to 10 weeks.

3.1 Participants

The total number of postgraduate students from the Instructional Technology (IT) course is 34 individuals which comprise 7 (20.5 %) male and 27 (79.5%) female. This study showed that the frequency of the students year of studies enrolled in IT course is from the first year with 26 (76.6%) students and followed by a second and third year with 4 (11.7%) students. The postgraduate students who enrolled in IT course with a different program of studies which is
Instructional Technology and Educational Psychology of 9 (26.5%) students, English Language Teaching with 7 (20.6%) students, Curriculum & Instruction with 6 (17.6%) students and Islamic Education with 3 (8.8%) students.

3.2 Data Collection
The data were collected at three different stages.

Before the M-learning Process (1st Briefing section on Week 1)
In the briefing section which takes part before the students enrolled in the M-learning process, the researcher of this study introduced herself and explained the intention and purpose to conduct this study to all the 34 students enrolled in Instructional Technology (IT) course. After the small introduction, the researcher provided the URL of Google form where the pre-reflection questions were uploaded online and requested the students to access the URL using their mobile devices. The rationale behind uploading the reflective questions online is to ease the students learning process as well as to foster online self-report learning experience. Later, the researcher explained the pre-reflection questions precisely and ensure that the students understood them. After the brief explanation, the researcher allowed the students to answer the pre-reflection questions and 15 minutes time duration were given in order to complete them. After the briefing section, the researcher of this study explained and demonstrated on the FLMOOC platform features and the course content. The course that the students need to attend is “Blended learning: Getting started” which runs for five weeks. After the brief explanation, the students were allowed to register and enrolled in the FLMOOC platform at their own pace.

During the M-learning Process (Week 2 – Week 6)
The students start to enrol in this M-learning platform and while engaging, the researcher of this study uploaded the second reflective questions (during reflective) in the Google form. The researcher emailed personally to every student to the second reflective questions. Three weeks’ duration was given to the students to answer the during-reflective questions and submitted online back to the researcher. The researcher tracks and recorded all the students responses to the reflective questions. A friendly reminder email was sent to those who had not yet responded.

Second briefing sections on Week 7
During the second briefing, the researcher distributed the task-centered activity questions to the students. The researcher informed that the students had three weeks to complete the activities in the task-centered activity. The task-centered activity consisted of three activities on which the students needed to create an e-portfolio blog, writing reflection on M-learning experience and creating a 10 minutes video presentation based on M-learning experiences.

During the Task-centered activity (Week 7 – Week 9)
The students started doing task-centered activity. Three weeks duration to do the task-centered activity based on their M-learning experiences. The role of the researcher in this study is to facilitate and provide timely support and guidance for the struggled novice students. In week nine, the students were required to email their blog URLs to the researcher. Every student has their own individual blog URL to exhibit their work. The researcher recorded all the 34 students blog URLs. The students task-centered activity was evaluated based on the rubric.

Last briefing section (Week 10)
The researcher requested the students to access the online post-reflective questions in Google form. The researcher allocated the students 15 minutes to answer the post-reflective questions and had them submitted back to the Google form. After completed the post-reflective questions, twelve (12) students were selected for a semi-structured interview process. The selection of the twelve students based on their performance in a task-centered activity. Six students who obtained a proficient level and six students gained novice level selected for the semi-structured interview. Upon completion, all the students were dismissed.

3.3 Data Analysis
In this study, the thematic analysis approach has been employed to analyse the qualitative data. Therefore, Kuckartz’s, (2014) Themetic Qualitative Text Analysis Process was referred for this study. In this thematic analysis, texts are clustered into themes and a combination of categories for identifying, organising, analysing and reporting patterns of meaning (themes) (Liamputtong, 2011). Employing the thematic analysis has drowned up to summaries of the overall content theme based on the research questions. On the other hand, postgraduate students were assessed based on their competency in performing the task-centered activity. The task-centered activity was evaluated based on 100% marks, but this score (100%) is measured using rubric adapted from Harry Walker, Johns Hopkins University (2010). This rubric is based on four levels which are a novice (0-25%), basic (25-50%), proficient (50-75%) and advanced (75-100%).

IV. FINDINGS AND DISCUSSION
Six themes emerged from reflective practices (pre, during and post), learning logbook (daily and weekly) and semi-structured interview data. These are important factors that influenced learning experiences where the students were engaged and empowered in the M-learning platform. The six themes derived from the students real-time learning experiences in M-learning.
1. New learning experience
Finding from reflective practices, learning logbook and semi-structured interviews asserted that the majority of the students mentioned the endeavour new learning experience in the M-learning platform. The students were mentioned that this M-learning experience is interesting, fun, flexible as the course content is simple to understand and easy to navigate while encouraging collaborative learning. On the other side, these new learning experiences derived the students to know and get familiarised with many educational technology tools. The students mentioned that they are excited about the new learning experience which prompts their excitement to explore and discover further. On top of that, the constant involvement of students in this M-learning platform is because of the new knowledge acquisition to know about the new technology tools and incorporating those technologies in the learning and teaching process. This new learning experience gave an insight to the students on the meaningful M-learning experience. The example of students excerpts stated in table 1.

<table>
<thead>
<tr>
<th>Themes</th>
<th>Example of postgraduate students excerpt</th>
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</thead>
<tbody>
<tr>
<td>New Learning Experience</td>
<td>Reflective practices</td>
</tr>
<tr>
<td></td>
<td>“Yes, this platform is interesting, fun, flexible, simple course content, easy to access and collaborative learning” (DR/S35).</td>
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<tr>
<td></td>
<td>“I learn and familiarise with many new technology tools during this learning process” (PR-S36).</td>
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<tr>
<td></td>
<td>“I enjoy FutureLearn because it is flexible and I can learn with my own pace while its increase my excitement for mobile learning” (DR/S55).</td>
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<tr>
<td>Learning Logbook</td>
<td>“It was a new approach for me. Although had done a few online tasks, but all those were regarding my profession. But this online learning was totally different and interesting when using the mobile devices” (LB/W1/S19).</td>
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<tr>
<td></td>
<td>“My learning experience in first weeks is actually very excited. These platforms give new knowledge as well as allow me to discover to learn and know more” (LB/W1/S27).</td>
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<td></td>
<td>“I am more interesting to join and get involved in this learning environment. I was very much interested on how technologies are being incorporated in lesson. I also get to know about various technology tools to be used in classroom” (LB/W2/S3).</td>
</tr>
<tr>
<td>Semi-structured Interview</td>
<td>I/R1: “Actually I learn new learning experiences thru this blended learning from the FutureLearn platform. I learn and know how other countries hire their education. So, I think for Malaysia we still need to move on. I finished my degree six years ago, I did not know what is blended learning and I did not use FutureLearn (MOOC). This is because Malaysia educational system focuses more on traditional learning”.</td>
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The high predictor factor for students meaningful M-learning experience as the majority of them reported on gained new learning experience employed mobile devices for learning purposes. The students new learning experiences stimulated to have cognition load and reflected on comprehending and valuing the new learning approach in the M-learning platform. The students cognitive load articulated their abilities in directing consistent learning engagement without any dropout. Hence, new learning experience being the first factor contributed to students meaningful M-learning experience. This finding corroborates with the study conducted by Calderón et al., (2020) on a pre-service student-centered digital technology approach which based on 12 weeks’ of digital technology-based learning activities was a new learning experience to most and they were initiated positive toward using digital technology and social network for educational purposes. However, Jonassen, (1999) stated that new experiences often create discrepancies between what the students observe and what they realize, these discrepancies lead to puzzlement, which in turn served as the catalyst for individual meaningful learning. This present study confirmed the constructivism learning theory that emphasizes that learner construct their understanding and knowledge of the online learning environments that directly expose the learners to the material being studies.

2. Beneficial in M-learning
This M-learning experience allowed the students to learn many new technology tools that they believe could enhance the learning outcome in the teaching and learning process. The students mentioned that they enjoyed learning new technology tools as this has enabled them to use different technological tools in different situations and ease their work. Besides that, some students gained an epistemic belief on their abilities on knowledge acquisition in the new
M-learning platform. This has indicated that the students enjoyed the M-learning platform which triggered their intrinsic interest to learn new knowledge in return will benefit them in knowledge acquisition and future career advancement. It is an eye-opener for students to keep updated with current technology and learned about traditional and digital technology. The students also expressed gratitude feeling to know and learn this new online learning platform. The example of students excerpts stated in table 2.

Table - 2 Student Excerpt on Beneficial in M-learning

<table>
<thead>
<tr>
<th>Theme</th>
<th>Example of postgraduate students excerpt</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beneficial in M-Learning</td>
<td>Reflective practices</td>
</tr>
<tr>
<td></td>
<td>“I think the FutureLearn is beneficial for me. I learn many technology tools to help my teaching. I enjoy the tools introduced to me. I used different tools in different situations” (DR/S29).</td>
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<tr>
<td></td>
<td>“I completed this activity and this platform which I feel I can do the task and learn something beneficial” (Post-R/S13).</td>
</tr>
<tr>
<td></td>
<td>“I am glad to learn new knowledge which benefit me a lot” (Post-R/S29).</td>
</tr>
<tr>
<td>Learning Logbook</td>
<td>“I able to learn many new technology tools and able to identified suitable tools used for my learning in order to enhance my learning performance” (LB/W3/S7).</td>
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<tr>
<td></td>
<td>“Its’ an eye opener, reminds me the important of keeping update with the new wave in education which involves digital technologies” (LB/W4/S23).</td>
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<td></td>
<td>“On this first week, I able to learned about the blended learning definition. Besides that, I learned traditional and digital technology which been taught in this course” (LB/W1/S9).</td>
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<td></td>
<td>“This blended learning makes my brain work. Now I know what is blended learning and how it function. It is very beneficial if we manage to use it in school” (LB/W1/S10).</td>
</tr>
<tr>
<td>Semi-structured Interview</td>
<td>I/R1: “For me it is very beneficial because now I know kind of web 2.0 that I can use and apply it in my classroom”.</td>
</tr>
<tr>
<td></td>
<td>I/R7: “Many of my friends are not know about this platform and this is great platform which can be implementing in school so that many people will get benefitted”.</td>
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</tbody>
</table>

The students can only obtain beneficial in M-learning when their disclosure to a meaningful M-learning experience. This factor denoted that the students learned a new way of acquiring knowledge. This has given an epistemic belief on M-learning as an eye-opener on updating current technologies and tools as well as eased the teaching and learning process for an effective technology integration. The finding of this study corroborates with the finding from Snowball and McKenna (2017); Alqahtani, Bhaskar, Elumalai, and Abumelha (2018) where students felt that the experience of creating podcasts and infographics is beneficial for their learning. In the same way, integrating technology through social media has created a meaningful learning experience which turned the students felt beneficial knowing new technology tools. To support these findings theoretically, the interaction learning intersection in the FRAME model mentioned the learners attainment to work together to achieve mutual goal and control over their learning process (Koole, 2006).

3. Personal feeling
The opportunity to know more about this M-learning platform is useful for an effective teaching and learning process. A student mentioned in an interview that this M-learning experience is interesting and enjoyable especially when employed mobile devices for learning rather than using for gaming and social media. Another student mentioned that personal interest has increased when their work has been appreciated and recognized by online course educators and other participants. In addition, another student mentioned that this M-learning wider they view about mobile technology and its integration. Regardless, most of the students satisfied and enjoyed embraced the M-learning. On top of that, the appreciation and recognition gained from the course educators and other course participants increased the students interest to engage constantly. The example of students excerpts stated in table 3.
The students felt satisfied with these new learning experiences which resulted in a meaningful M-learning experience. The user-friendly and easy navigating online course structure stimulated the students' interest and satisfaction to engage constantly. Be an active participant in this M-learning platform without personal feeling, satisfaction, and emotion is almost impossible. Learning required reflection thinking which enables the students to create knowledge and personal meaning through the transformation of experience (Fullana, Pallisera, Colomer, Fernández Peña, & Pérez-Burriel, 2016). Thus, student personal feelings, satisfaction, and emotions are important in eliciting meaningful learning experiences. The finding of this study supports the result found in the study conducted by Chung, Cheng, Shih, and Lou, (2019) to explore the impacts of “positive emotions” through an Application. This present study confirmed on Frame model (Koole, 2006) and Constructivism learning theory (Bada, 2015) on a learner’s willingness or ability to adopt new information that may be affected the learner’s emotional state to accomplish a task.

4. Empowering M-learning

M-learning enhances learning with just a click using mobile devices at the students own pace. The finding from the multiple data sources revealed that the students empowered the learning by deciding when and how to initiate the learning and which mobile devices are suitable for this learning as well as accountabilities for this learning process. Moreover, the students also reported that they will empower and enlighten the M-learning platform to their pupils based on their learning experience. Numerous students voiced out that the learning experiences gained from the M-learning platform enable them to create their educational tools such as PADLE and KAHOOT. Therefore, the students new M-learning experiences comprehended the benefit of this FLMOOC platform as they were able to express their M-learning experiences with friends, colleagues and class pupils. The example of students excerpts stated in table 4.

Table - 4 Student Excerpt on Empowering Learning

<table>
<thead>
<tr>
<th>Theme</th>
<th>Example of postgraduate students excerpt</th>
</tr>
</thead>
<tbody>
<tr>
<td>Empowering M-learning</td>
<td><strong>Reflective practices</strong></td>
</tr>
<tr>
<td></td>
<td>“I learn new knowledge from this FutureLearn and this new learning experience is value for me as I able to create my own technological tools. Everyone should benefit from this platform, so I will share my experience with my colleague and students” (Post-R/S34).</td>
</tr>
</tbody>
</table>
“I will share my learning experience with my students and let them get exposure to this kind of learning platform” (Post-R/S25).

Semi-structured Interview
I/R5: “I will apply to my students on what I have learned in FutureLearn. For example, I will assign a topic to my class students to search in internet and reported it in one of the technology tools which is POPLET and will ask the students to present it”.
I/R2: “I open up the use of ICT in my classroom as I able to create my own educational tools like POPLET and it’s seem as effective technique for learning. Not only that, when I share this with my colleague, they find it very easy to implement among their pupils”.

Learning Logbook
“The open education resource information was very interesting. I was able to create a PADLET wall with a video in it” (LB/W3/S22).
“I have learned more about practical side of BL. I am going to think how I can implement them in my own teaching” (LB/W2/S35).
“FutureLearn is a good learning platform and will introduce about this to other friends and answering the quiz enhanced my understanding of the course content” (LB/W5/S11).
“I can share information with my friends and colleagues and learn new knowledge. This is because through FutureLearn I can learn a lot of knowledge” (LB/W4/S21).
“This is great learning platform and I want to introduce to my class students now itself as their get the same benefit as what I had” (LB/W5/S2).

Knowledge transfer occurred when the students gained meaningful learning experience from the M-learning platform. Eventually, students who confidently gained a meaningful learning experiences enunciated to transfer the knowledge obtained from M-learning experiences to others. The students also do not want to be out of the board by not getting updated with the current technology advancement. A learner can construct the knowledge and effectively apply the knowledge acquired from the online learning platform to other similar or novel context (Liu, & Hsueh, 2016). The findings are similar to findings from Rodis, Aungst, Brown, Cui & Tam, (2016) on sharing the knowledge gained among other class pupils. Koole, (2009) supported these findings theoretically in his framework as psychological comfort is refer to the students intuitive level and also how quickly the students can understand and begin using the devices.

5. Social interaction
The students excitement and enjoyment increased as they can get connected with other course participants in this M-learning platform. The course participants are not only from Malaysia but also from all over the world. This has increased the students involved as well as self-confidence when they could able to make new friends and get connected with other participants using mobile devices at any time and pace. The social interaction enhanced and enables the students to understand the course content precisely by sharing the knowledge learned from the FLMOOC platform course content. Besides that, students also reported having maintained a healthy relationship with other participants and enhanced their communication skills. This is not only increased their self-confidence but also to accept positive and negative responses and feedbacks from course educators and participants. However, several students have mentioned being ignorant when received negative responses or feedback from other participants and instructors. The example of students excerpts stated in table 5.

Table - 5 Student excerpt on social interaction

<table>
<thead>
<tr>
<th>Theme</th>
<th>Example of postgraduate students excerpt</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social Interaction</td>
<td>Reflective practices</td>
</tr>
<tr>
<td></td>
<td>“sharing my views with other course participants all over the world and this increase my confidence and interest to use my mobile devices for learning purposes more frequently” (DR/S6).</td>
</tr>
<tr>
<td></td>
<td>“I manage to maintain a healthy relationship with other participants and the self-confident that gained enables me to accept all the responses and feedback either positive or negative” (DR/S9).</td>
</tr>
<tr>
<td></td>
<td>“I will ignore if received any negative feedbacks as I don’t know how to handle it” (Post-R/S15).</td>
</tr>
</tbody>
</table>

Learning Logbook
"I have learned so much new things and able to interact with other course participants" (LB/W5-S14).
"Maintaining healthy relationship with educator and other participants is important for me as this hinder my nervousness and increase my self-confidence" (LB/W5-S24).
"This platform is great because allowing social constructivism where enable me to interact with other participants" (LB/W2-S14).

**Semi-structured Interview**

"I excited as get connected with other participants from all over the world and this hinders my fear to face them" (I/R6).

The functionalities of mobile devices eased the students life to get connected at any pace of time. On top of that, the students has mentioned that this social interaction has improved their communication skills when other participants across the world responded positively to their comment in the discussion board in M-learning platform. The students confidence has increased as it enabled them to build a healthy relationship with other participants despite the language barrier. Theoretically, the social aspect in Koole, (2009) framework has mentioned “social communication enabling the students to exchange information, acquire knowledge, and sustain cultural practices” (p.31). The students also open up the mind in accepting the positive and negative responses and feedback from participants, online course educators, and instructor. However, sometimes, the students reported being ignorant of the negative responses and feedbacks. The students do not know how to react and handle the negative responses and feedback as this is a first experience of being engaged in the M-learning platform and often being ignored. Thus, the students mind of ignorance needs to investigate for future study consideration. This feeling of ignorance may direct the students to feel discomfort or disengagement for future M-learning study. Perhaps, the role of instructor will play an essential role in guiding and facilitating the students in handling the issues arise during this M-learning process. Hence, the findings corroborated with finding from Kuimova, Burleigh, Uzunbıyolu, and Bazhenov (2018); Fu and Hwang, (2018) mentioned that mobile devices used as tools for collaboration.

### 6. Empowering devices

Students mentioned that mobile devices have been used for social media and gaming but they never comprehended for learning purposes. Thus, the students ability to empower mobile devices for learning in an appropriate way enable them to have meaningful M-learning experience. Thus, the students apprehend that the M-learning platform can empower mobile devices for efficient learning process. In addition, M-learning enables the students to have accountability for their learning with mobile devices. The example of students excerpts stated in table 6.

<table>
<thead>
<tr>
<th>Theme</th>
<th>Example of postgraduate students excerpt</th>
</tr>
</thead>
</table>
| **Empowering devices** | **Reflective practices**
"Using mobile devices for learning if better rather than for social media and gaming. I get to know new learning with mobile devices" (Pre-R/S22). |
| **Learning Logbook** | "I realise that FutureLearn platform enable me to utilise the use of mobile devices with right way and I felt this learning experiences has given insight on using mobile devices for meaningful learning purposes other than just for social media and gaming" (LB/W1/S25). "This is technology era where the students should able to apply these technologies skills not only in the class but wherever they think can learn" (LB/W2/S10). |
| **Semi-structured Interview** | "Now everyone knows how to use the mobile devices but why we only use the devices to play the game and not for learning. So we need this kind of learning to make use of mobile devices for an appropriate way of learning" (I/R1). |

The students M-learning experiences unveiled the usage of mobile devices for an effective learning. The students obtained self-awareness and insight on mobile devices usages upon their new learning experience in the M-learning platform. Hence, the finding of this study is consistent with the findings conducted in eight different universities in Dubai, United Arab of Emirates by Al-Emran, Alkhoudary, Mezhuyev, and Al-Emran, (2019) which concerns about examining the academics’ attitudes towards the use of M-learning concerning smartphone ownership and the result
indicates that academics who own smartphones were more positive to employ mobile devices for M-learning systems than those who don’t use. This is also referred to as the learning experience that the academics acquired while employing mobile devices.

V. IMPLICATION AND CONCLUSION

The present study highlighted the important factors influenced to the M-learning experience to support students meaningful learning. Conclusively, the factors influenced to meaningful M-learning experience is a new learning experience, benefit in learning, personal feelings, empowering learning, social interaction and empowering devices. All these factors are interrelated and connected in building the students meaningful M-learning experience. The students also learned to distinguish their ability on strengths and weaknesses in managing real-world problems and constant engagement in the M-learning platform which respectively occurred outside classroom boundaries. Bearing in mind on this M-learning experience factors, it is suggested that instructors should take into consideration other sources of M-learning and thus try to implement among students in real-time experiences. Moreover, the outcome from this study may help instructors focus on interventions that help to develop the cognitive skills of students which accommodate students strengths and ability level. Other than that, students self-directed learning is a construct that can be improved, it is suggested that instructors should take into consideration the source of self-directed learning and thus try to develop the students to be a self-directed learner. From the FRAME model and constructivism learning perceptive, the meaningful learning experience enables the students to perform well in the M-learning process.

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