MOBILE-ASSISTED LANGUAGE LEARNING APPLICATION FOR ARABIC *HARFIAH* AMONG OLDER ADULTS IN MALAYSIA

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ABSTRACT

This paper focuses on mobile-assisted language learning applications based on a systematic review gathered from published resources from 2008 to 2018. It aims to ameliorate discernment of advancement of mobile-assisted language learning application in supporting learning among Muslim older adults. We recognize theoretical and conceptual perspectives of mobile learning with older adults supported by evidence and theories. The results indicate that previously published work has adopted and adapted theories and concepts suitable in their respective studies, deem suited for current study. This serves as an initial study leading towards the proposed innovative use of mobile-assisted language learning using Android Studio for Muslim older adult learners to learn the Arabic language in an informal setting. Learning Arabic based on the authentic Qu'ranic Arabic is essential for Muslim older adults in fulfilling the five pillars of Islam, particularly understanding its literal (Harfiah) meaning with no exaggeration. Informal lifelong learning often affiliated and advocated for urban cities and rural population of older adults. The Malaysian government has since long inspired lifelong learning for older adults since the Ninth Malaysia Plan (2006-2010) in ensuring active and productive aging among Malaysian older adults. Various policies and initiatives preceded outlining achievable objectives for older adults' access to knowledge, training, and education. Access and offerings of mobile technology to these population extended the potential for alternatives in informal lifelong learning. Even though Malaysia has taken various initiatives to support older adults' lifelong learning, few documented publications were established on mobile learning applications usage for language learning to promote lifelong learning. These are among the gaps that Malaysia are currently lacking and in demand as part of the heaps of emphasis provision towards aging society by 2030.

Keywords: *mobile-assisted language learning, older adult learners, lifelong learning, Arabic Harfiah*

INTRODUCTION

Learning with technology often associated with most type of learners but often assumed to be challenging when it comes to older adults. Perhaps this concept of unique adult education recommends specific instruction for specialized learning needs in relation to the rest of the population. While andragogy involves self-directed learning, problem-centered activities and participative decision-making (Knowles, 1980), older adults or geragogy differs in the sense that it is more towards supervised decision-making, instructor-directed learning and person-centered activities (Schuetz, 1982). Despite of its nature, geragogy often become the field of study of praxeological, empirical and theoretical investigations (Maderer & Skiba, 2006). The

findings aims at mapping the landscape of mobile-assisted language learning for Muslim older adults, acquiring authentic meanings of the words in the Qur'an.

Many of the studies established on MALL promotes human cognition with technology and attempt to employ features of mobile technologies especially mobile phones (or smartphones). Learners' readiness and acceptance in using mobile technology for language learning, therefore, needs to be considered in attaining success for its implementation. The aim of this study is to ameliorate discernment of advancement of mobile-assisted language learning application in supporting learning among Muslim older adults.

LITERATURE REVIEW

Various studies documented on language learning utilizing mobile learning asserted that mobile learning offers tremendous potentials benefits towards older adult learning experience with languages. Informal learning often associated with older adult learners as formalized learning often organized and confined within predetermined curriculum determined by experts (Gray, 1999). The researcher added how the traditional learning approaches that are suitable for young adults will not be appropriate for older adults. The University of the Third Age (UTA) were developed in the 1970s spreading global success with various structures and programmes for older adult learners. The first UTA, were established in 1968 under the Direction of Higher Education in France (Formosa, 2010) with the main objective to establish interest and management in lifelong learning. Pierre Vellas initiated the first UTA establishment in Toulouse with the notion to improve retirees' quality of life. Since then, UTA has expanded its branches around the world, including Malaysia.

According to a study by Mohamed, Mohamed & Yusof (2010), elder populations in Malaysia mostly utilized their time in a day with napping (77.4 percent), relaxing (45 percent) housework (40.9 percent). Similar results were supported in a study concluded by Hamid and Yahaya (2008), while a study by Yin-Fah, Paim, Masud & Hamid (2010) disclosed that older adults were not exploring into new employment after quitting their job at 55 years old due to health issues and family responsibilities. With available support for methodologies, together with tools (mobile technologies), older adult learning will be a diverse experience for self-actualization.

This paper therefore is structured as follows. The discussion follows a progression from observing mobile application based learning to older adult's characteristics that are related to the study. The background of mobile-assisted language learning (MALL) and older adult learners (geragogy) outlined in this section, defining characteristics, related theories, current status, trends and policies. References inclusive of a decade of research (2008-2018) where the primary resources includes research papers from scientific and technical journals, as well as conferences proceedings. Chapters and books were chosen as secondary resources to support the elaboration on originating terms related to the concept. Evidently, any missed references is possible, especially involving conference proceedings and various resources from non-English articles. Notwithstanding, the coverage is confined within the area of interest of the researcher.

RESEARCH METHOD

The main objective of the current study is to examine the concept of mobile-assisted language learning among older adult learners in Malaysia by providing relevant literatures and theories within this particular area from the years 2008-2018. The following research questions guided this study:

(1)   How has the development of mobile learning concept contribute towards the uses of MALL in language teaching and learning in Malaysia?
(2)   What are the trends regarding older adult education?
    i.   What are the defining characteristics of older adult?
    ii.   What are the strategies and policies available for older persons in Malaysia?
    iii.   What are the importance of lifelong learning concept and older adult education?
    iv.   What theoretical frameworks commonly associated with MALL and older adults?

Literature Search Strategy

Relevant publications gathered via various search tool such as OUM Digital Library, Researchgate and Google Scholar. Various databases such as ScienceDirect, ERIC, Scopus, IEEE, ProQuest were also utilized. Following include all possible search terms combinations that were exhaustively utilized; MALL, smartphones for language learning, older adults learning, older adults AND MALL, MALL AND Malaysia, older adults AND language learning AND Malaysia, mobile learning AND older adults, and lifelong learning AND older adults. The literature review outlined under findings section adopted Webster and Watson's (2002) guideline where the researchers indicate on contributions from published leading journals.

Data Analysis

Content analysis with directed approach (Hsieh & Shannon, 2005) were adopted, which begins with relevant research findings and related theories to answer the research questions. All articles, published journals and books were analyzed based on the varying categories outlined under findings.

FINDINGS AND DISCUSSION

Findings

Defining mobile learning (or m-learning) requires several consideration or criteria in learning as it may involves various terms and concepts which has yet possess an agreed-upon definition (Kim & Kwon, 2012; Arvanitis, Krystalli & Panagiotidis, 2016). The criteria may either involved with learning via mobile content, learning with mobile learners, or learning via mobile terminals (Taylor, 2006). Mobile learning (often regarded as "m-learning") is not a new concept, however, with the development and introduction of new devices in the market with enhanced capabilities have greatly ignited the interest level, including among language educators.

Mobile learning concept considerably a new idea in Malaysia, however, a research team pioneered by Mohamed Amin Embi and Norazah Mohd Nordin of National University of Malaysia, has developed a significant research movement investigating mobile learning and its development in the country. "Mobile learning: Malaysian initiatives and research findings" were published as a collaborative effort between the University and the Ministry of Higher Education Malaysia (Embi & Nordin, 2013).

Where education and technological concern, then such definition from El-Hussein & Cronje (2010) fit the overall representation of the definition: "any type of learning that takes place in learning environment and spaces that take account of the mobility of technology, mobility of

learners and mobility of learning". In assuming the challenge to free formal instruction of being confined within a place and time, various technologies from clay tablets, scrolls and printed books were employed before the 20th century. Desktop computers, laptops and web-based applications meliorate with greater flexibility in offering access to language learning materials in late 20th century. MALL application in education were possible today with the invention of handheld devices, pioneered by various mobile technologies including pocket electronic dictionaries, personal digital assistants, MP3 players, ultra-portable table PCs and mobile phones (Burston, 2013).

Apart from being an effective communication and entertainment instrument, mobile devices complement pedagogical structure in exposing learners with various communication situations and selected tasks to attaining target learning outcomes for chosen language. Park and Slater (2014) asserted that features of mobile devices enable language learners to experience real-world opportunities in meaning making. These enabled for further educational benefits to be attained in mastering vocabulary and grammar know-how, communication skills, improved learning motivation and interest, as well as creating thinking skills (Burston, 2013).

Mobile-Assisted Language Learning (MALL)

Chinnery (2006) were the first researcher who coined the term MALL, which is a subset of mobile learning and computer-assisted language learning. A three-year empirical research on mobile language learning were undertaken by Stockwell (2010) concluded that learning with mobile phones is not highly desirable as compared to learning with computers due to the time learners took to work with the MALL-related activities. Kukulska-Hulme & Shield (2007) document a similar findings as Stockwell and concluded in their review that mobile devices were lacking in creativity and repetitious that it does not utilize on its characteristics by being mobile, allowing peer connectivity and advanced communication.

Major enhancement in software updates has allowed smartphones' capabilities to be fully utilized with the introduction of various language support for both iPhone and Android, respectively. Web apps development that enable interactivity were further encouraged by Apple and in 2008, the App Store were introduced as the new apps distributing environment. Android users own similar and perhaps better option for distributing environment when Google introduced Play Store that has encouraged a significant gained in number of apps and its users. A study conducted by Tang, Leung, Haddad, & McGrenere (2013) chosen Android-based phone for their study experiment due to its popularity in the market (48%) and among the first time buyer (57%) in 2012. Various apps for language learning offers specific languages such as Spanish, Japanese, Chinese, Arabic and ESL. Among the functions available offered by these apps includes dual-language dictionary, flashcards, voice search and e-mail, audio recording and voice recognition (Godwin-Jones, 2011). Even though MALL began its inception in 1994 (Leow et al., 2014; Burston, 2013), the year 2009 was identified as the new beginning of MALL research area that concerns with application development for language learning (Stockwell & Sotillo, 2011; Ballance, 2012).

Smartphone Applications for MALL

Arvanitis et al. (2016) sampled 20 software applications installed in smartphones and tablets for language learning for the authors' study. The examined applications categorized under various focus on activities such as lexical, grammatical, orthographic and phonological. Examples of these application ranges from Duolingo (duolingo.com), Memrise (memrise.com), babble (babbelcom) and more. The major languages applicable in the applications mentioned in the study in majority, dealing with European languages such as English, French, Spanish, German, Italian and Russian. While the least taught European languages ranges from Irish, Danish or Swedish. Chinese, Japanese and Korean were among the major Asian languages involved while Tagalog, Vietnamese, Thai and Arabic were available in 5 applications. The results of the findings suggest that most applications

are well designed which allows learners to develop their basic language skills. Among the focus of the application were on minimal task-based (Park et al., 2014; Tang et al, 2013) activities for instance, matching, multiple choice and even crossword puzzles.

Initial educational setting experience using this service pioneered by many, among them include David Wolber from University of San Francisco who has taken the dauntless step in implementing an app for his class using incomplete earliest version of the app (Wolber, Abelson & Friedman, 2015). The results indicated how the application became one of the motivating factors for the group of learners in higher education institution in pursuing the course. This serves as an evidence that mobile assisted language learning can be implemented to complement traditional teaching or as the sole source for learning (Radin, 2017).

Older Adult Learners
There were no studies indicating explicitly of the universally accepted or agreed upon definition of "older adult", hence most studies defined older adults based on the population and samples applicable in their respective studies. For instance, a study by Guo (2017) chosen 60 years old as the threshold for the study, and Kim, Gajos, Muller and Grosz (2016) chose 60 to 73 years old in their sample. However, in a study by Maderer et al. (2006), older adults refers to senior adults aged 50 years old and above. In various studies, the category for older adults also known as third age (Laslett, 1989; Gómez, 2016) which indicated the period of time for personal fulfillment. Laslett (1989) indicated that the third age category comes from the four lifespan main phases, where first age shows a person dependency towards others (parents); the second age where one arrived at adult maturity. Second age often refers to a stage where responsibilities and established social relationships were evident, alongside financial stability and having a family. Though the lifespan of the third age is rather subjective in nature, the fourth age usually refer to shorter span, and ultimately death. In addition to this, Hartford (1978) discussed geragogy as a field of study concerning the elderly based on their self-actualization, improved wellbeing, social relations, talent development and lifelong learning. Geragogy is also a well-known term that refers to the management of teaching and learning with older adults (Formosa, 2012; Maderer & Skiba, 2006). The term geragogy was first coined and advocated by Lebel (1978) in the author's article titled, "Lifelong learning: The adult years". Four years after, Yeo (1982) introduced "eldergogy" term with no educational theory that follows. According to a report by Health and Retirement Study in 2007, the aging and retirement population of baby boomers generation considered to be one of the most transformative demographics experienced event in America (Chen, Kim, Moon & Merriam (2008). In Malaysia, statistics based on the population projections has significantly demonstrated findings to support this aging scenario. For example, based on the statistics projected by Department of Statistics Malaysia (DOSM) in 2016, the old aged population of 65 years and above expected to reach 7.2 percent in 2020 and 14.5 percent in 2040. Malaysia diversely multiracial and multicultural society comprise of 63% Malays and Bumiputera, Chinese (22%), Indians (7%) and other ethnic group (0.9%) based on the projected total population of 30 million in 2014 (Rahimah, Hamid, Tyng Chai, & Abdullah, 2016a- see Table 1). The findings categorized old age as one of three age structure in the population that follows after younger age group (between 0 to 14 years), and the working age group (between 15 to 64 years old).

Rahimah et al. (2016a) opined that Malaysian older adults are highly heterogeneous distinguished based on their socioeconomic and geographic aspects. The researchers emphasized the fact that majority of older adults located in urban towns and cities, even though rural areas shared proportionate number of ageing population.
However, according to Plaza, Martin, Martin & Medrano (2011), the concept of older people may be referred to as a diverse group instead rather than being homogeneous. Diversity, according to the researchers includes natives and immigrants, specific educational experience

and training and varied health concerns. The decrease in fertility rates in Malaysia (from 1.8 percent in 2010 to 0.8 percent in 2040 and improved conditions of living contributed towards the percentage and increase in life expectancy of older people (Plaza et al., 2011; Rahimah, et al., 2016a).

Strategies and Policies for Older Persons in Malaysia

The population of Malaysia is aging, however, longevity often closely related to improvement and advancement of health care provision available in the country (Aziz, Ahmad & Zainuddin, 2017). This is made possible by the effort from various parties especially the government and its agencies in supervising any health issues of its citizens. In addition to living longer and health care provision, the varying experience of older adults comparatively distinctive from those of previous older adults generations (Rahimah et al., 2016b).

Older adults has become one of the key target for government-based development agendas, not only in Malaysia, but worldwide. Three main policies often being associated with education and active ageing in the local context. The National Higher Education Strategic Plan (2007-2020) and The Enculturation of Lifelong Learning (2011-2020) designed by the Malaysian Ministry of Education focusing on developing human capital as a provision for human resource in nation building. The initiatives under these blueprint somehow not design directly for the older adults (Rahimah et al., 2016a). In 1995, National Policy of Older Person were introduced and further accentuated on active aging beginning of the year 2000 onward in line with WHO program. The policy has embarked on important development of older adults learning in Malaysia's history. By connecting between doing and learning, the initiatives under this policy broaden up opportunities offered through third age education and lifelong learning. Diversified programmes offered for corporate social responsibility by public and private sectors may convince the policymakers on the importance of lifelong learning for older adult learners.

The Eleventh Malaysia (2016-2020) securing growth on people under strategy B5 that envision improvement of the living environment for the elderly by encouraging and empowered communities for a productive society.

Informal Lifelong Learning for Older Adults

In Malaysia, lifelong learning among older adults is not a new concept since it has naturally cultivated in the Asian culture. Formalized process of learning in our modern education system has excluded the adult and older adults learners until the early 21st century. Even though the older adults of post-war and pre-Independence were mostly excluded, the current generation of older adults however, are more affiliated with non-formal learning for leisure and religious avocations. Experiential learning in a community settings has kept the older adult Malay adults accustomed with the tradition of religious learning in allowing them to fulfill the five pillars of Islam (Rahimah et al., 2016a; Muhammad & Meriam, 2000). Eighty percent of the world's Muslim populations are non-native of the Arabic language, therefore, it is obligatory for Muslims to understand the language and improve their language pronunciation so as to not alter the meaning (Abdullah, Pathan, Al Shaikhli, 2017). Venues such as mosques, *pondok* schools or *madrasahs* were the common centres in conducting these non-formal learning, apart from charitable-based and modern Islamic non-governmental organizations (NGOs). Such organizations includes the al-Jenderami Foundation whom established *Kompleks Warga Emas* in *Selangor* (Rahimah et al., 2016a) and *Pusat Pendidikan Al-Barakah in Perak* where older adult learners, especially women, resides in the respective centres, attended to their informal learning activities involving prayers and Quranic studies. *Pusat Pendidikan Bahasa Arab Al-Furqan* was established in Malaysia in 1998 by Ustaz Nasaruddin Hasim offering basic classes or level one of Arabic language learning for eight months with two hours a week for adult learners in addition to other short courses. The attractive features of the classes' methodology requires no memorization and take home exercises and learners were encouraged to complement their

informal learning with the Quranic transliteration reference based on the *Harfiah* method introduced by the centre. Since its inception, the centres has managed to diversified its course offerings and also in various media including via radio stations Institut Kefahaman Islam Malaysia (IKIM), compact discs, television programmes such as Bismillah AdDuha on Astro Oasis and TVAlhijrah (Pusat Pendidikan Bahasa Arab Al-Furqan, 2018).

In an attempt to extend learning for older adults beyond learning for leisure, Demonstrator Application Grant (DAGS) Scheme for NACSCOM, Malaysian Government Retirees Association, Eagle's Nest in Kajang, YMCA in Kuala Lumpur and Yayasan Nanyang Press were among the pioneered effort in bridging digital divide (Friemel, 2016) among older adult Malaysians. The University of Third Age (U3A) were established in 2007 by Institute of Gerontology, University of Putra Malaysia under the Ninth Malaysia Plan (2006-2010). Programmes offered under U3A in Malaysia developed in tandem with the French and British U3A models. The government postulated for the involvement of different segments of the populations in its economic development planning. The inclusive approach emphasized on capacity building, improved well-being through learning process and entrepreneurial attainments. This motivation being next in line of succession with Issue 4 of Priority Direction (Older Persons and Development) of the Madrid International Plan of Action on Ageing (MIPAA) by allowing knowledge, education and training to be accessible to older adults. Older adults learning experience with technology will not only bridge the gap in digital divide (Friemel, 2016), cultivate an active and fulfilling later life (Rahimah, Syamilah, Aizan & Tyng, 2016b), but also meaning-making in the learning process.

Theoretical Framework on Older Adult Learners
Kim et al. (2016) proposed a theoretical perspective extended from the technology acceptance model developed by Fred Davis in 1986 (see Figure 1). The provisional model demonstrated the perceived effort on new technology learning eluded older adults' technology acceptance. The extended model that were introduced in 2016 has not since then being applied in any studies concerning older adults learning experience and technology acceptance.The initial application of the theoretical framework for older adults learning developed by Maderer et al. (2006) were mostly for institutional care. However, the framework can further be extended to mirror the dimensions of sense of purpose and engagement in learning (Maderer et al., 2006). The critical geragogy theoretical framework may be considered in combining informal learning and professional practice in the older adult learning context. The framework were proposed by Maderer et al. (2006) in a study by Creech & Hallam (2015). Themes were organized under the main dimensions; person centred, fellow-centred and matter-centred in facilitating older learners in community music. One of the themes under person-centred goals is vulnerability of older learners. Vulnerability refers to the older adult learners' new experience in learning presently, eventhough they may have vast experience in their respective professional lives. Connection to past experience may or may not exist and this may contribute towards the theme mentioned. Most informal learning involved with older adults' interests in specific area of study. This is described as a theme under fellow-centred goals, which measure enjoyment as a goal in learning. Interest plays an important role in learning for older adult learners as described in a study by Beh et al. (2016). The trend continue where older adult learners stated their preferred mobile device in learning (Zainal, Razak & Ahmad, 2013; Barnard, Bradley, Hodgson & Lloyd, 2013). Older persons holds the higher adoption rate of mobile phones than the Internet usage as it meets their needs and expectations (Venkatesh, Morris, Davis & Davis, 2003; Conci et al., 2009).

Discussion

Mobile learning definition may exhibit the view of the educators and policy makers in education, however, in defining m-learning from learners' perspective may involve with "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, 2005). Palalas (2011) offered an alternative definition that consists of both aspects of mobility: "MALL can be defined as language learning enabled by the mobility of the learner and portability of handheld devices". Stockwell's description on mobile-assisted language learning (MALL) were accepted at that particular time since his research were constraint by the technologies available in the beginning of his study. This is because, smartphones with iPhone platform were only released in 2007 (Godwin-Jones, 2011) and Android were in 2008 (Ballance, 2012).
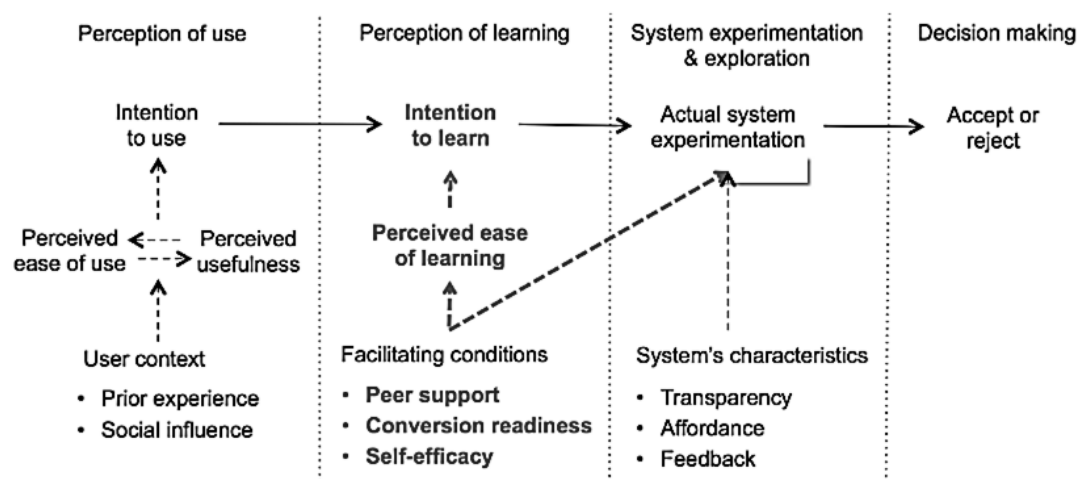

Figure 1: Technology acceptance model for older adults (adopted from Kim et al., 2016).

Some negative factors revealed in various studies concerning MALL implementation in education. Even though one of the attractive features of MALL applications encourage learner-centered and self-directed language learning, researchers remarked how teacher-centered and transmission model still persist (Demouy, Kukulska-Hulme, 2010); Palalas, 2011; Burston, 2014). Park et al. (2014) added that MALL applications are lacking in design that are based on Task-Based Language Teaching (TBLT) model. Hardware or software constraint was not an issue for MALL-based application concluded in a study by Kukulska-Hulme et al. (2007), where the researchers suggested that developers' ability in conceptualizing innovative means with mobile language learning, in comparison, should be highly regarded in its importance. Martinez and Schmitt (2010) emphasized on how these issues mentioned in Stockwell (2010) conclusions have somehow managed by the introduction of technological innovation, accessibility and how learners are now afford to own smartphones. Learning languages with mobile phone apps therefore encourages individualized informal and learner autonomy in the process. Ballance (2012) suggested that with the offerings of technological advances, MALL-based activities should be made available in apps-based in order to exploit the touch screen technology (Page, 2014). A study by Armstrong, Nugent, Moore & Finlay (2010) supported Balance (2012) and Godwin-James (2011) claims on how the touch screen interface on smartphones may somehow get rid of problems experienced by older adult learners with the application of vibration or sound functions for feedback, fixable font size and even tailored mobile apps for users' needs. Small screens on mobile devices were highlighted as among the negative factors in a study by Stockwell (2010) and Arvanitis et al. (2016) even though it was deemed solved in a study by Godwin-Jones (2011). Arvanities et al. (2016) referenced this issue within the study literature, even though it was not part of the results of the authors' findings. Various criteria chosen to define older adult characteristics. Among these criteria include age. Pension benefits receivable often associated with age ("Proposed working definition of an older person in Africa for the MDS Project", 2018) where, according to a report by Organization for Economic Cooperation and Development (OECD) (Sarfati, 2017), legal limit retirement age

of 65 years old are applicable in countries such as Europe, Italy, Sweden, Switzerland, United Kingdom, and United States. In Asia, countries under OECD, such as Japan complied with 64 years old. In less developed countries in Asia the retirement age for India is 58 years old, 55 years old for Indonesia, 60 years old for Thailand and Singapore limits the retirement age to 62 years old (Sarfati, 2017; Jamaluddin & Wah, 2013). In the study by (Sarfati, 2017), the retirement age for men are comparatively higher than of women. Relatively, the retirement age in Malaysia equal to other South East Asia OECD countries, which is 60 years old (JPA, 2011).

However, Malaysians working under the government sector were given the option to retire at age 55 years old if they have started working since 2001 based on the previous Act (JPA, 2008). Therefore, current number of older adults in Malaysia who are above 55 years old, most probably have started working before 2001. It is also observed that the current older adults in Malaysia were baby boomers who has not experienced or born in technological era, therefore considerably bounded to exposure to technology (Malik et al., 2018; Kim, Gajos, Muller & Grosz, 2016).

Age-related characteristics in adult education were among the criteria often considered by educators in educational program design. An empirical study published by Thorndike, Bregman, Tilton & Woodyard (1928) concluded that an awareness level on the effects of aging on learning is evident. However, these criteria were found to be periodic until the first graduate program in educational gerontology were established by Howard McClusky at the University of Michigan. The researcher went on and publish an authoritative paper for the White House Conference on Aging, stating that an idea that education was one of the affirmative areas of gerontology due to "its faith in the learning ability of older persons, and because of its confidence in the improvement that results from learning" (McClusky, 1973, p.10). Older adult learners were further recognized as a separate distinctive area for research when it was being approached by Peterson (1978) as a concept that include "(1) educational endeavors for middle-aged and older people; (2) public education about aging..; and (3) preservice and inservice education of professionals and practitioners for work in the field" (p.61). The Madrid International Plan of Action Ageing (MIPAA) was presented at the Second World Ageing Summit in 2002, following the first summit held in Vienna in 1982. The declaration were signed by 157 participating representatives from government and civil society organizations, including Malaysia. The strategies outlined by the global commitment emphasized on three pillars of new active ageing epitome, namely (1) national development participation by older adults; (2) older persons' health and social services' quality; (3) age-friendly infrastructure and environment to support ageing. A study by Rahimah et al. (2016a) drew our attention concerning limited schooling opportunities throughout the years in pre-Independence of Malaya which contributed towards the majority of older adults today not possessing post-secondary level qualifications. Limited early education opportunities raised questions (Rahimah et al, 2016b; Orr & Hovdhaugen, 2014; Siivonen, 2016) in the study by the researchers on the issues of lifelong learning opportunities for older adults and how it may not only benefit the older adults, but also to the country, by observing the patterns beyond human capital and productivity gain focus. Learning for leisure anchored most initiated programs in Malaysia for older adult learners. The National Council of Senior Citizens Organizations Malaysia (NACSCOM) were established to encourage growth and progress of older person's well-being under its 40 affiliated clubs located in major urban areas. Various clubs involving public health were setup by the Ministry of Health under the National Health Care Policy for Older Persons in Malaysia, inspiring participation of its members in talks, seminars and other health and fitness-related activities. The Department of Social Welfare Malaysia established 22 centres throughout the country funding activities involving older adults via smart partnerships with various NGOs (Rahimah et al., 2016a).

In Malaysia, University of Third Age (U3A) were established in 2007 by Institute of Gerontology, University of Putra Malaysia under the Ninth Malaysia Plan (2006-2010). Programmes offered under U3A in Malaysia developed in tandem with the French and British U3A models. The main aim behind the establishment of the institution is to empower older adults through lifelong learning participation in various programmes. Even though the programmes offered has no examinations and tests, the courses will be assessed only for appraisal purposes. U3A has become mainstream in ageing society worldwide, providing the venue to execute policies under lifelong learning initiatives, which later shifted the focus from economic to prioritizing social cohesion and capital (Boström & Schmidt-Hertha, 2017). Universities offering formal learning for older adults with innovative and creative solutions against the issues and challenges in ensuring a successful implementation of lifelong learning includes Open University Malaysia (OUM), Wawasan Open University (WOU), INFRA, KEMAS, Institute of Gerontology, community colleges and Malaysian Chinese Association (MCA) (Mohamed et al., 2010). In 2018, a study conducted by Malik, Azudin and Abdullah (2018) negated the previous studies by expressing that only small percentage of older people are using mobile devices, inclusive of mobile phones, while a study by Tang et al.(2013) added that comparatively, older adults adopted mobile phone and its services slower than the young adults. Bozdoğan (2015) concluded few points to consider in MALL implementation, considering factors affecting younger adult and adult learners in the researcher's study. It was observed that learning via mobile should be graded and monitored as part of a course work, in order to achieve better participation and engagement in those tasks provided (Wang & Smith, 2013). However, this may not necessarily be the case as the older adult learners are known to be highly motivated in learning the contents based on the interest-bridge model study by (Beh et al., 2016) and self-motivation and actualization (Rosales, Fernández-Ardèvol, 2016).

CONCLUSION

The aging society in Malaysia are growing rapidly (Rahimah et al., 2016), however, they do share age-related changes in terms of perception, cognitive abilities and mobility that greatly affect their daily routines. Though these changes among older adults are inevitable, technology designs that consider localization factor will reduce the barrier to adopt the mobile application. Non-English user interface were identified as one of the barrier to learn with mobile applications in Malaysia (Hisham & Edwards, 2007). Eventhough availability of numerous application of mobile phones offers as a promising tool to improve the older adults' quality of life (Plaza et al., 2011; Tang et al, 2013). However, there were lack of standard methods to evaluate the impact of mobile applications among older adults (Plaza et al., 2011Lifelong learning concept render differing appreciation from various parties involving academicians, policy makers and older adults, themselves. While governments tend to relate this concept with workforce retraining and skills upgrade, the academicians view this concept as a requisite criteria. Differing expectations by various sectors has led towards disagreement in conceptualizing lifelong learning for older adult learners in Malaysia. In the nutshell, as the name suggest, lifelong learning should be sustainable in nature, and therefore, mobilizing factor needs to be considered in planning the activities deliverables and content delivery (Rahimah et al., 2016b). Lifelong learning for older adults has increasingly becoming one of the supported movement currently and more in the near future. The inclusive approach emphasized on capacity building, improved well-being through learning process and entrepreneurial attainments. This motivation being next in line of succession with Issue 4 of Priority Direction (Older Persons and Development) of the Madrid International Plan of Action on Ageing (MIPAA) by allowing knowledge, education and training to be accessible to older adults. As there has been encouraging demand for learning in later life, in addition to mobile-based learning, lifelong learning contribute towards a prominent role in improving the quality of life of older adults in the knowledge-based economy and society. Older adults learning experience with technology will not bridge the

gap in digital divide (Friemel, 2016), cultivate an active and fulfilling later life (Rahimah, Syamilah, Aizan & Tyng, 2016b), but also meaning-making in the learning process. This study will contribute towards the existing body of knowledge in the related areas and learning experience in terms of lesson delivery for third age learning with the employment of mixed methodology that includes non-formal, self-directed and informal learning (Mohamed et al., 2010).

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