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ANALYSIS OF THE NEEDS OF THE M-LEARNING APPLICATION FRAMEWORK IN IMPROVING READING PROFICIENCY PRESCHOOL KIDS

Wan Kamarulzaman Wan Yusoff
IPG Tengku Ampuan Afzan Campus, University of Malaysia Sabah
wkamarulzaman@gmail.com

Abstract

This study aims to identify the need to develop an M-Learning application framework to improve Malay reading skills in preschool children. This study uses a design and development study approach involving three phases. The first phase was a needs analysis involving 51 preschool teachers managed by KPM using the UTAUT model-guided inquiry instrument to investigate the needs and desires of teachers in using the M-Learning application. The UTAUT model has four main horizons, namely the range of intentions and desires, achievements, attitudes and efforts. The data obtained were analyzed through descriptive statistics using SPSS software. Interpretation of the data is based on the min score stage measurement schedule adapted from Yusri (2010).

Keywords: Framework, Reading Proficiency, M-Learning, Preschool

Introduction

Reading is an important activity in human life on earth. Information obtained through reading, whether physical or virtual, can be used as a guide in various aspects of human life (Tamam, Zamri, Nik Mohd Rahimi and Jamaludin, 2010). Reading is one of the language skills that children need to master from the start so that they can achieve progress and mastery in teaching and learning. Various methods have been used by teachers in educating children to master reading skills. Naimah (2005) explains that children in the early stages of reading need to be trained in fun ways, according to their suitability and interests, not by force.

Today, there are various methods and approaches that provide opportunities for children with different intelligences to learn reading methods according to their respective suitability and intelligence. This study focuses on developing an M-Learning framework to enhance the teaching of reading skills in preschool children. The fun learning experience in preschool grad rooms can instill and foster positive perceptions in children as a preparation for stepping into

formal education (lower school) and facing challenges in the flow of lifelong education.

According to Rohani, Nani Menon and Mohd. Sharani (2003), the experience gained by children at an early stage will affect the whole process of the development and growth of these children. This includes developmental processes such as physical, intellectual, language, social, emotional and childhood values as early as 4 years of age. While Yahya, Aisah, Azmey, DK. Siti Ardiah and Maszurimah (2012), explained that reading skills are an important principle in childhood life. This is because, reading skills become the basis for cognitive mastery and the environment of childhood life. Reading skill is one of the important skills that need to be mastered by preschoolers before moving on to higher education. While Yahya, Aisah, Azmey, DK. Siti Ardiah and Maszuraimah (2012),

Childhood Malay Reading Proficiency

Reading proficiency is an important principle that preschoolers need to master before moving on to Year 1 inaugural stream. Children's success in preschool depends on their ability to read. However, the process of learning to read is rather complicated and challenging for young children because it needs to be understood as one's attempts to recognize appropriate visual shapes and sounds. This process will allow children to interpret the meaning behind the experiences they go through. Reading ability depends on a combination of knowledge in terms of language, cognitive style and children's reading experience.

In the 2017 DSKP KSPK Semakan, reading proficiency content standards include mastering pre-reading skills, recognizing letters of the alphabet, fostering and reading syllables and sayings, reading and understanding phrases and verses, reading and understanding reading material in addition to cultivating extensive reading. For students aged 4 years and over, the expected Reading Proficiency Learning Standards are for students to be able to explain symbols and prints that have a specific purpose and purpose, to identify the characteristics and physical criteria of books from the aspect of the title, pictures or illustrations and author, to practice how to read correctly from left to right and from top to bottom, identify the position between the eyes and the book, how to hold the book, practice guarding the book in the right way, may read in a mocking manner, may identify the alphabet,

The Learning Standard for Reading Proficiency for students aged 5 years and over also includes aspects of criticizing and identifying differences in sounds found in the human environment and the natural environment, responding to sounds heard, identifying and pronouncing lowercase and uppercase letters, reading words and understanding phrases that have words with open and closed syllables, read and understand easy verses using the right pronunciation, read and retell the contents of the reading material read and express ideas from

it, share reading materials and read reading materials in any way share with friends or read individually (Ministry of Education Malaysia, 2017a:32-34).

M-Learning Applications In Childhood Reading Proficiency

Technology is seen as very intimate and close to the lives of today's children. Television, personal computers, laptops, gaming devices, tablets and smartphones are constantly changing the lifestyle and way of learning of children. Thus, NAEYC and Fred Rogers Center (2012) have emphasized that if technology is used in the right way, it has the potential to increase children's achievement and potential. Rapid developments in the field of mobile education applications are seen as being able to provide benefits and open a new page for the world of early childhood education.

This matter can be proven by the emergence of mobile technology which has given an impression to the way of learning in educational institutions. One of the drastic impressions that can be seen is the form of applications such as film and music recording as well as various educational, official and financial programs. Obviously, these mobile devices and applications are providing new and more meaningful learning opportunities for children in preschool.

An analysis conducted on the Apple Apps Store's educational apps shows that more than 80% of the education category apps developed are targeted at children. It is more interesting if the applications developed for preschool learning have occupied the most popular category, which is as much as 58% (Shuler et al., 2012). This shows a healthy trend in the process of cognitive, affective and psychomotor development and growth of children in preschool.

Research methods

This study basically uses quantitative methods based on the Design and Development Research (DDR) approach. This design and development study involves three main phases, namely, the needs analysis phase, the design and development phase, and the implementation and evaluation phase. This study was conducted to identify the needs and stages of preschool teacher acceptance of the M-Learning application framework in addressing early childhood reading problems in preschool as scheduled below:

Table 1 : Phases, Objectives and Methods of Study

Phase / Objective of the Study	method
Identify the need for the development of the M-Learning application frameworkin improving the reading skills of preschool children managed by KPM	About investigate UTAUT model

Study Instrument

Researchers circulated probing questions regarding the need for an M-Learning application framework in addressing preschoolers' early reading problems. This study was conducted on 51 preschool teacher respondents, and was administered by the investigators themselves. The research instrument for this study was developed based on the Theory of Acceptance and Use of Technology (UTAUT). UTAUT was recommended by a group of investigators consisting of Venkatesh, Morris, Davis, and Davis (2003). This theory is based on the belief that the use of technology among users has been well received by respondents (Davis, 1989; Taylor, 2004). UTAUT is detailed through four (4) main constructs namely Achievement Range, Business Range,

Study Sample

The Needs Analysis Study was carried out after the pilot study was carried out on the respondents involved. After making adjustments and purification of the results of the pilot study, the investigator will circulate the probing questions for the purpose of analyzing teacher needs for the development of an M-Learning application framework in improving preschool children's reading skills. The sample collection has been identified to facilitate the focus of the objectives and can guarantee the quality of the respondents' answers in line with the objectives of the study.

This study was carried out on 51 respondents of preschool teachers managed by KPM. The research questions were self-administered by the investigator via online distribution and against the samples involved. According to Cohen, Manion and Morrison (2007), a sample size of 30 and above is suitable for studies using statistical analysis. The selection of the sample is based on the random sample selection aim.

Data analysis

The researcher uses a set of probing questions which will be analyzed using the Statistical Package for The Social Science (SPSS) version 20 to identify the needs and acceptance of preschool teachers towards the M-Learning application framework. Data were analyzed using frequency and percentage. The data obtained was analyzed through descriptive statistics using a summary of the entire data. It also seeks to provide direct and easy information (Walsh, 1990; Pallant, 2007).

RESULTS AND DISCUSSION

RESULTS

The results of this needs analysis study are explained based on the methods of design and development studies (DDR) (Richey and Klein, 2007) which will specifically explain the results of the needs for the development of an M-Learning application framework to improve

reading skills of preschoolers. The results of the study findings are explained according to the objectives and research issues that have been outlined. The following is a matrix table for the analysis of the framework development needs.

Schedule 1 :Study Matrix

Study Questions	method	Respondents/Data Analysis
To what extent do KPM-managed preschool teachers need and want to use the M-Learning application framework in improving children's Malay reading skills in preschool?	About investigate	51 preschool teachers (KPM) SPSS (frequency and percent)

This study involved a total of 51 respondents among preschool teachers managed by KPM. The inquiry questions are administered by the investigators themselves via online and face-to-face contact. Cohen, Manion & Morrison (2007) argue that a sample size of 30 and above is appropriate for studies that use statistical analysis. The sample selection is based on purposive sampling.

The results of the study found that a total of 29 preschool teachers representing 56.8% had teaching experience of more than 11 years. Meanwhile, in terms of the experience aspect of using TMK as well, the results show that as many as 37 teacher respondents (72.5%) have more than 11 years of experience. Meanwhile, the study also showed that 14 preschool teachers representing 27.5% had less than 5 years experience in using Information and Communication Technology (TMK) equipment, 37.3% (19 respondents) had between 6 and 10 years experience managing TMK equipment. Meanwhile, 17.6% (9 respondents) had experience between 11 to 15 years, 4 respondents had experience between 16 to 20 years and only 9.8% (5 respondents) had experience exceeding 20 years in using TMK equipment.

Table 2 is the overall formulation of the Acceptance Stage of M-learning (Range of Achievement) which is presented in the form of standard min and sishan.

Schedule 2: The stage of accepting teachers to apply M-Learning in teaching (Achievement Range)

Num	**statement**	**Min**	**Standard Side**
1	I find that the M-Learning app is useful in teaching	4,471	.7029
2	Using the M-Learning application in teaching will help me to complete my assignments more quickly	4,510	.6441
3	Using the M-Learning application in teaching will increase my productivity	4,392	.6657
4	Using M-Learning applications in teaching will increase children's opportunities to achieve better achievements	4,373	.6917

Based on the Achievement Range formula, it was found that all achievement range items showed a high min score, which is around 4,373 to 4,510. This shows that the acceptance stage of preschool teachers in applying M-Learning in teaching is very high.

Furthermore, Table 3 is an overall formulation of the stages of acceptance and tendencies to use the M-Learning application in improving preschool children's reading skills (Effort Range) which is presented in the form of min and standard sishan.

Schedule 3 : Stage of acceptance and propensity to use the M-Learning application to improve reading skills of preschool children (Business Range)

Num	statement	Min	aside Expert
1	I believe thatinteraction through the M-Learning application will become clearer	4,255	.6883
2	Mobile usage will increase the proficiency of applying M-Learning	4,412	.6979
3	Pthe use of mobile devices will make it easier for me to use them in teaching	4,235	.8146

Based on the formulation of Table 3, it was found that all preschool teacher effort range items showed a high min score, which is around 4,235 to 4,412. This shows that the level of acceptance and the tendency to use the M-Learning application to improve reading skills of preschool children (Effort Range) is very high.

Meanwhile, Table 4 below is the overall formulation of the acceptance stage of the M-Learning application (Attitudes Towards M-Learning) which is presented in min and standard sishan forms.

Table 4: Acceptance Stage of M-Learning Applications (Attitudes Toward M-Learning)

Num	statement	Min	aside Expert
1	I am not interested in using the M-Learning application during teaching	1620	.7440
2	Various interesting applications via mobile devices encouraged me to apply M-Learning	4,471	.6117
3	I am always positive about using mobile technology while implementing M-Learning	4,412	.6686
4	The use of the M-Learning application gives very good ideas during teaching	4,353	.7436

Based on the formulation of Table 4, it was found that item number 1 showed a very low min (1,620), while at the same time giving an illustration that respondents did not agree with this item. Even so, the preschool teacher attitude item showed a high min score, which is

around 4,353 to 4,471. This shows that the level of acceptance of M-Learning applications (Attitudes Towards M-Learning) is very high. The positive tendency of teachers to use M-Learning equipment in the teaching and learning process in the study room.

Finally, Table 5 is an overall formulation of the stages of acceptance of the M-Learning application (Intention and Desire to Use the M-Learning application) which is presented in the form of minimum and standard allowances. This construct describes the stage of the respondent's desire to use the M-Learning application in improving preschool children's reading skills.

Schedule 5: Acceptance Stage of the M-learning application (Intention and Desire to Use the M-Learning application)

Num	statement	Min	Standard Side
1	I reserve to use the appM-Learning in teaching reading skills	4,412	.6686
2	I am planning to use the M-Learning app for future classes	4,373	.6312
3	I hope to use the M-Learning application in the years to come	4,333	.7118

Based on the formulation in Table 5 above, it clearly shows that the level of acceptance and willingness of preschool teachers to apply M-Learning during teaching and learning is high, which is around 4,333 to 4,412 on a score of min. The scope of this study is based on intentions and desires which refer to a high willingness to use mobile devices in applying M-Learning technology. Instruments that represent behavioral intentions and desires indicate the period of time the intention of a behavior to be designed and implemented.

DISCUSSION

a. Stage of Teacher Willingness to Apply M-Learning in Teaching (Achievement Range)

The education system in our country has gone through a radical transformation phase that is in line with the National Education Philosophy, resulting in the addition and restructuring of the existing curriculum. The curriculum revolution took place because of the impact of globalization in the field of information and communication technology (TMK) and became an enabler for the use of computers during the teaching and learning process carried out at all levels of educational institutions in the country.

Computer Technology Research studies found that individuals will be able to control 80 percent of what they see, hear and create simultaneously (Rozinah Jamaludin, 2000). Integrating mobile education into teaching and learning is definitely able to make the process

of mastering knowledge more meaningful for individuals with the title of prosecutor. Thus, integrating multimedia elements can provide a teaching and learning session that is more interesting, creative, innovative and provides a more memorable learning experience for students.

Based on the Achievement Range formula, it was found that all achievement range items showed a high min score, which is around 4,373 to 4,510. This shows that the teacher's willingness to apply M-Learning in teaching is very high. In this study the achievement range is a stage of teachers' belief that the use of mobile technology helps them improve their performance in teaching. The use of mobile devices is expected to help preschool teachers access teaching materials, be able to keep in touch with children. In addition, the use of mobile devices is also expected to be able to open opportunities for online classes, virtual discussions and be able to download teaching and learning materials quickly and save time (Venkatesh et al., 2003).

b. Willingness and Inclination Stage to Use M-Learning Applications in Improving Preschool Children's Reading Proficiency (Business Range)

The range of effort refers to the willingness of preschool teachers to apply M-Learning in teaching and learning in the study room. The teaching aspect of reading proficiency requires the teacher to use appropriate tools and methods so that a more meaningful learning environment can be formed, while at the same time ensuring the achievement of learning objectives is realized. Meanwhile, the scope of the effort also describes the teacher's tendency to apply learning methods that are in accordance with the target set and believe that the use of M-Learning will facilitate the teacher's task in preschool. Business scope refers to the ease of use of a technology with the user's own efficacy. Self-efficacy is a powerful determinant and influences individual behavior to use the technology or system that is developed. (Venkatesh et al., 2003). In short, effort expectancy relates to the user's enjoyment of the system used in completing their tasks and work.

Teacher perceptions also play an important role in determining positive attitudes towards the acceptance and use of TMK in teaching and learning. The findings of the study show that the majority of preschool teachers have a positive attitude towards the willingness and tendency to use TMK as a teaching and learning tool in improving preschool children's reading skills. The positive attitude of preschool teachers can bring about a good revolution in the early childhood education system. Preschool teachers always support the country's education transformation agenda, by carrying out their duties with sincerity, trust and commitment.

Implementation of M-Learning in teaching and learning needs to be designed and appropriate to ensure the effectiveness of its implementation. The objectives of developing

computer and communication technology (ICT) in education include increasing ICT infrastructure development by expanding access and equity in ICT facilities, expanding ICT-based curricula, improving assessment systems using ICT, emphasizing the integration of ICT in teaching-learning, increasing knowledge and ICT proficiency among students, teaching staff and personnel of the Malaysian Ministry of Education (KPM), increasing the use of ICT in educational administration, increasing efforts to manage and administer ICT tools, improving research and development programs,

c. Willingness Stage Toward M-Learning Application (Attitude Towards M-Learning)

TMK is an information sharing tool that has the potential to improve the quality of education whether used formally or informally. It transcends age, ethnicity, gender whether male or female, people with disabilities, young or old, nations without any time boundaries. The attitude of preschool teachers towards M-Learning applications is seen as very positive. This is because respondents believe that M-Learning technology equipment or electronic circuit systems may be used to collect, store, process, distribute and convey information in a timely and appropriate manner.

Meuller (1986) argues that attitude is able to describe the extent to which an individual likes or dislikes something. Attitude can reflect an individual's willingness and sincerity to do something. In the context of this study, attitude describes the teacher's belief in something that may respond positively and affectively in using M-Learning (Venkatesh et al., 2003). The positive tendency of teachers to use M-Learning equipment in the teaching and learning process in the study room.

This positive response can lead to widespread use of the M Learning application as a Teaching Aid (ABM) in the PdPC process in study rooms. This is included in the spread of literacy skills among preschoolers. The responsive attitude of preschool teachers towards M-Learning applications can encourage children to learn more effectively. The preschool teacher's attitude towards the M-Learning application also shows a high min score. This proves that preschool teachers' acceptance of the M-Learning application is very good.

The world of education today uses less of a 'chalk and talk' approach but is more focused on information and communication technology (TMK) to equip human capital that meets the demands of the world-class job market. Therefore the concept of M-Learning was introduced as an alternative to teaching and learning activities. The attitude of preschool teachers towards the use of M-Learning applications in improving children's reading skills is very important for the quality of early childhood education, especially in improving reading skills.

d. Readiness Stage for the M-Learning Application (Intention and Desire to Use the M-Learning Application)

Results for the study issue of the need and desire of preschool teachers to use the M-Learning application framework in children's reading proficiency. Overall, they have shown a positive perception of the use of technology and reduced the use of traditional practices. However, there are still teachers who show that they are still fond of it in their own way during delivery in the study room.

Based on the use of the UTAUT model, it shows that the preschool teacher's desire to apply M-Learning in teaching is very high. Likewise, the indications for the range of effort are very high, reflecting the level of acceptance and inclination to use M-Learning applications in improving preschool children's reading skills.

The same thing is also translated through items of desire to use the M-Learning application during the teaching and learning process. A high min score indicates a very good acceptance stage of the M-Learning application. These findings have supported the opinion of Hartshorne and Ajjan (2009) who believe this technology has the potential to further strengthen the quality of teaching and learning and interactions between students and teachers.

CONCLUSION

Based on the findings of this study, there is a need to develop an M-Learning application framework to improve the reading skills of preschool children. The findings of this study further confirm the findings of the highlights of studies, reviews and expert opinions that the lack of a comprehensive framework in the application of childhood mobile education needs to be addressed immediately (Neumann and Neumann, 2014). In fact, there are also experts (Hirsh-Pasek et al., 2015) who are of the view that a comprehensive and clear framework needs to be developed to promote more meaningful learning experiences among preschoolers, as well as referrals to investigators, teachers, parents and education industry players mobile.

Even though at present there are frameworks and guidelines available on the market, they are still based on procedures for using media and technology in teaching and learning in general. In fact, there is still a lack of a specific and comprehensive mobile education framework to foster early reading among preschoolers (Neumann and Neumann, 2014; Shoukry et al., 2015). Many investigators have expressed the need and interest in developing an M-Learning application framework that is more comprehensive and in accordance with the needs of children in preschool. Instead, the findings of the study above should have supported some of the findings of previous investigators in saying the same thing, namely their need to form an M-Learning application framework.

Finally, a statement that supports the need to build an application framework for mobile education is Hirsh-Pasek et al. (2015). Hirsh-Pasek and colleagues argue that a comprehensive

and clear guideline or framework needs to be developed to promote a more meaningful learning experience among preschoolers. Not enough with that, the developed framework is believed to be able to be used as a valid reference source among the research community, teachers, parents and other mobile education industry players. This is because until now, there has been no specific reference for M-Learning application industry players, especially in developing M-Learning applications for early reading among preschoolers.

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