

TESTING THE USEFULNESS OF A MOBILE EDUTAINMENT SOFTWARE IN LEARNING MALAY LANGUAGE GRAMMAR IN PRIMARY SCHOOL

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ABSTRACT: *Mobile learning is a flexible method of teaching and learning since pupils are not bound by location and time for learning activities as compared to a conventional classroom. Incorporating games into teaching and learning activities as edutainment makes learning efficient and fun. This research analyzes the usefulness of a mobile edutainment software through the game "Hidden Objects" in learning Malay language grammar. Data were collected through a questionnaire involving 82 pupils and a structured interview was conducted with six pupils. The findings showed a positive feedback with a high mean value of 4.30, while the interview obtained positive response from the respondents. They also reported feelings of excitement while playing the game "Hidden Objects" in the software. In conclusion, the results of this study showed that mobile edutainment software used as a learning aid can enrich pupils' learning in primary schools. Mobile edutainment is suitable for the 21st century learning style which is based on mobile technology, as well as elements of edutainment offered in an educational package with fun learning for pupils.*

Keywords: *Mobile learning, edutainment, games, grammar, Malay language, usefulness test*

1. INTRODUCTION

Rapid advancement in Information and Communication Technology (ICT) has influenced our daily life especially in the area of education and entertainment [1]. Thus, when it comes to the education of the 21st century, a direct link exists between the relationship of teachers' pedagogical and technological tool that cannot be separated, but complementary to achieve the goal of teaching and learning. Changes in education in Malaysia need to be in tandem with teaching and learning in the 21st century [2]. This phenomenon in turn has led to the development of the latest teaching and learning approach, especially through mobile learning, in line with the demands of the students who make technology as a medium for social life [3]. Moreover, the teaching strategies in education institutions has evolved where edutainment has taken its place in the world of education. Edutainment allows children to learn by using various combination of multimedia elements (text, images, video, sound and animation) by simply using a computer mouse to point and click on a particular word, picture or button [1]. The purpose of this study is to analyse user's evaluation of the usefulness of mobile edutainment software through the game of "Hidden Objects" in learning of Malay language grammar. This study investigates the use of mobile edutainment through games in facilitating pupils' understanding of grammar concepts and how to use the collective noun in Malay language grammar as their second language in primary school.

Mobile Learning

[4], defines mobile learning as a form of e-learning, which can take place anytime, anywhere with the help of a mobile communication device such as a mobile phone, a personal digital assistant (PDA), iPod or any such small portable device. Mobile learning should be restricted to learning on small and portable devices [5].

Edutainment

According to [1], the term edutainment is derived from the words "education" and "entertainment" which define the

teaching and learning process carried out in an enjoyable and less serious environment. Edutainment refers to learning content that enables learners to have fun while learning, as in playing games. Unlike general games, edutainment aims to reinforce the motivation for education and increase learning [6]. Edutainment is to promote learning by merging educational contents and entertainment activities that increase engagement, emotion, and motivation [7]. In other words, edutainment refers to the teaching and learning process carried out in a fun and less stressful classroom environment [8].

Edutainment contents assists in active learning helps in increasing retention and builds skills and competence. It helps to create interesting, situational learning environments that closely reflect a learner's true learning environment [9]. In other words, edutainment is applied in order to teach learners how they should use their own knowledge, analyze things that they learn, combine things that they perceive and evaluate things that they learn [10].

Edutainment in Primary School

Edutainment in Malay language curriculum is lacking the element of games in the teaching and learning of Malay language. According to [11], a game is an activity with rules, a goal and an element of fun. Using games as a teaching and learning activity should be regarded as an integral part of the language syllabus. Games provide students with intensive and meaningful practice of language [12]; moreover, using games helps the students to relax; remember things faster and better [13]. Thus, games provide learners with a relaxed and enjoyable setting that adds variety to the learning situations [14]. In fact, playing is part of the nature of children in the learning process. [15], defines the term "young learners" to encapsulates those children between the ages of about 5 years old to 12 years old, thus, playing games is a natural part of young learners' lives [16]. Hence, the element of games should be one of the pupils' activities in teaching and learning, since games can encourage pupils to learn languages in a meaningful learning environment [17].

According to [18], if learners are children, language teachers should not ignore their natural instincts for games and they should seek different ways to turn learning activities into edutainment. Besides, there are various advantages of integrating games into language teaching which are recapitulated as follows; games emphasize the meaning of language learning, thus, learners will better remember the language they learnt [19], while, [20] shows the students agreed that the use of edutainment software will improve their understanding of the topics taught, and showed interest in the use of edutainment software in teaching and learning process.

Mobile Edutainment Software in Learning Malay Language Grammar

In the research “Content Design of Mobile Edutainment”, [6] investigated the significant factors that influence the use of edutainment content for children based on mobile devices. The analysis of the results has shown that, first, characters have a significant impact on children’s preference for and intention to use the edutainment content. Secondly, the color, such as the color of objects included in the content or the color of characters, has a significant influence. Along with the color, factors like the size of buttons and menu buttons expressed as pictures also had a significant influence. Thirdly, it was demonstrated that audio sounds significantly affects children's preference for and intention to use the edutainment contents. Fourth, ease of use was proved to be meaningful components for children. Fifth, the story had a significant influence. Finally, interactivity was significant as well.

Grammar lesson seems complex to students, and teaching grammar is challenging [19]. Teachers always rely on blackboard and poster as their teaching aids. Thus, the courseware to teach grammar can be strengthened with other multimedia elements like video and animations and these will help students to understand complex concepts in grammar [21].

Software on learning Malay language grammar through mobile edutainment via games have been developed as in Figure 1, through the game “Hidden Objects”. Edutainment software is a type of software intended to educate children through entertainment [22]. Students not only can play games that are prepared, they can even learn grammar through games. Thus, learning through playing games can enhance student’s motivation in learning. Moreover, games are an important part of childhood development while learning often takes place through a child’s game-play [23]. Importantly, the mobile edutainment software met the multimedia features of interactivity, colorful images and audio. In addition, through the game "Hidden Objects", pupils will be given a list of collective nouns, and they are required to find the nouns in the form of objects hidden within the picture. When students successfully found the correct object and clicked on the item, then the sound of the correct item will be heard. Once, the correct item was found in the picture, the correct item will be moved from the picture to the listed collective nouns accordingly, as shown in Figure 2. This mobile edutainment game has four levels, which means pupils can play the game from one level to another level, or pupils can choose and play

any level of the “Hidden Objects” game according to their interest, as shown in Figure 3.



Figure 1



Figure 2



Figure 3

Methodology:

Research Design:

This study used a questionnaire adapted from [24][25] as well as a structured interview. The questionnaire used a Likert scale of 1 - 5, which is (1) strongly disagree; (2) disagree; (3) not sure; (4) agree; and (5) strongly agree. The scale for score mean interpretation is based on the interpretation of Nunnally (1994):

Table 1: Scales for mean score interpretation.

Mean Scale Range	Interpretation
1.00 – 2.00	Low
2.01 – 3.00	Moderately Low
3.01 – 4.00	Moderately High
4.01 – 5.00	High

Sampling:

In this study, a set of questionnaire was distributed to 82 pupils from year four, studying in a primary school in the district of Bintulu, Sarawak, while 6 pupils were involved in a structured interview.

According to [26], cluster sampling is a unit of sampling which is not for an individual, object, organization or specific events but is a group of individuals, objects, organizations or events that have the same characteristics. The researcher used cluster sampling technique in this study.

FINDINGS AND DISCUSSIONS:

Evaluation of the Usage of Mobile Edutainment Software from the aspect of the game:

Table 2: Usage of “Hidden Object” in Learning Malay Language Grammar

No.	Criteria	n = 82
		mean
Overall		4.30
1	I love playing this “Hidden Objects”	4.18
2	“Hidden Objects” caught my attention	4.32
3	I entertained while playing “Hidden Objects”	4.15
4	The background audio of “Hidden Objects” interest me to continue playing”	4.15
5	Sound on every object that was clicked precisely stimulate my interest to continue to play	4.19
6	The background image in the “Hidden Objects” impress me	4.31
7	“Hidden Objects” has 4 levels of interest to me to keep playing	4.47
8	“Hidden Objects” game are interactive and can be interesting for me	4.34
9	I’m having fun playing the game “Hidden Objects”	4.28
10	I feel satisfied with this “Hidden Objects” game	4.25
11	I am delighted to learn the collective nouns while learning	4.42
12	I feel good with pictures of colorful objects	4.57
13	I will play “Hidden Objects” game repeatedly if I have free time	4.04
14	“Hidden Objects” game interest me to	4.25

	learn collective nouns	
15	I feel good because this game can increase my interest to continue to learn grammar	4.43
16	I feel good because this game has managed to increase my knowledge	4.30
17	I feel good because the game experience means to me	4.39
18	I feel good because the gameplay is challenging my mind	4.32
19	I feel good playing because these games increase my motivation to learn grammar	4.32
20	I enjoyed playing as I find all the hidden objects in the picture	4.32

One of the aspects of this study is the evaluation of the aspect of games that is contained in the mobile edutainment software featuring 20 criteria. As shown in Table 2, respondents expressed pleasure with pictures of colorful objects by their inherent mean value 4.57. Next, followed by the 4.47 mean of the respondents stated that "Hidden Object" has 4 levels of interest to me to keep playing. For criteria "I feel good because this game can increase my interest to continue to learn grammar" has 4.43 mean value. Respondents said "I am delighted to learn the collective nouns while learning" has gained a mean value 4.42. Next, the criteria "I feel good because the game experience means to me" recorded a mean of 4.39. Mean value of 4.34 for "Hidden Object" game are "interactive and can be interesting for me." There are 4 criteria for each recorded value of mean 4.32, the "Hidden Object" game caught my attention"; "I feel good because the gameplay is challenging my mind"; "I feel good playing because these games increase my motivation to learn grammar," and "I enjoyed playing as I find all the hidden objects in the picture". Respondents also noted that "The background image in the Hidden Objects impress me" obtained a mean value of 4.31. "I feel good because this game has managed to increase my knowledge" also received a mean of 4.30. Mean value of 4.28 is regarding "I'm having fun playing the game Hidden Objects". There are 2 criteria for recorded mean values of 4.25, which is "I feel satisfied with this Hidden Objects game" and "Hidden Objects game interest me to learn collective nouns".

There are also 5 criteria which have recorded high levels of mean values. Respondents stated that "Sound on every object that were clicked precisely stimulate my interest to continue to play" a mean value of 4.19. This was followed by "I love playing this Hidden Object" noted a mean of 4.18. Next, respondents responded that "I entertained while playing Hidden Objects" and "The background audio" of "Hidden Object" interest me to continue playing" has obtained a mean value of 4.15. Finally, "I will play Hidden Object game repeatedly if I have free time" has a mean of 4.04.

Overall, the results of the analysis of game showed that the mean value is high, at 4.30. Therefore, this study can conclude that the game of Hidden Objects contained in this software successfully attracts students to learn grammar, as well as helping them increase their knowledge in the use of grammar more effectively. These findings are consistent with the findings by [20], showing, 83.8% of students agreed that

the use of Edutainment software will increase students understanding toward the topic that has been taught while 96.6% of students show their interest in using Edutainment software in teaching and learning process. Additionally, the findings by [27], Using an Edutainment Approach of a Snake and Ladder game for teaching Jawi Script has shown increased pupils' interest. The game is tested with Year One pupils and their Jawi language teachers in one of the Malaysian primary school. The result shows that pupil's interest level in learning Jawi has increased using the proposed edutainment approach. [28], in their research regarding "Edutainment Based Mobile Phone Games for Health Communication in India", shows that all the youth had played mobile phone games to entertain themselves and compete with their friends within the privacy of their home or in public places as per convenience. The mobile phone games were liked by a large number of respondents as they reported it was easy to play, very interesting, challenging and entertaining. An analysis of the Awareness Test clearly indicated an increase in awareness about Tuberculosis after playing the games. In fact, students can learn grammar, while playing the game that has been prepared. The concept of learning through play game is matched with the concept of Primary School Standard Curriculum (KSSR) that emphasizes the latest edutainment elements in teaching and learning.

Qualitative Analysis:

According to [29], researchers are required to only ask questions that have been existing without making any changes to the questions or to make any additional questions if the researcher chooses a structured interview. Thus, in this study, the researcher used a structured interview due to the respondents who are 10-year-old school pupils. The researcher used an interview protocol when interviewing the 6 pupils who are users of mobile edutainment software. Data from the questionnaire were triangulated with interview data. There are 3 themes identified in the aspect of the game which contained in mobile edutainment software, namely (i) *aspect of liking*; (ii) *aspect of fun*, and (iii) *aspect of the usefulness of games in learning grammar*.

i. Aspect of liking:

Based on the interview conducted, the researcher received positive feedback regarding the students love to learn grammar by using this mobile edutainment software. All of the students expressed them like towards mobile edutainment software (M1, M2, M3, M4, M5, M6). Next, students like to use mobile edutainment software because it can increase their knowledge in the field of grammar (M1, M3, M6). In fact, through this software students can also learn grammar according to their learning stage (M3).

ii. Aspect of fun:

The aim of edutainment in language teaching and learning is to provide a learning environment that is full of fun while learning through play. Thus, games are often used for motivational or fun purposes. Games have often been included in language teaching to stimulate motivation and authenticity in communicative practices [23]. Therefore, the result of this interview found that all respondents expressed their pleasure with the mobile edutainment software, with responses of "I enjoyed playing the game of Hidden Objects

in this software" (M1, M2, M3, M4, M5, M6). The reasons for these pupils enjoyment playing this software is because they can play by finding the hidden objects in the image, besides, they can also learn grammar (collective nouns) (M1, M2, M3). In other words, games stimulate curiosity thus helping learners to be motivated for the lesson [14]. In addition, the pupils also said that they are interested in the music effect (M3, M6), and the background image is very nice (M4).

iii. Aspect of usefulness games in learning grammar:

The results of the interview also give a clear feedback to the researcher, all students as well as mobile edutainment software users agree and certify that the game of "Hidden Object" can help them learn collective nouns in grammar (M1; M2; M3; M4; M5; M6). The results of the interview also gave a clear feedback to the researcher, which means all the students who used the mobile edutainment software agreed and said that the game of "Hidden Object" can help them learn collective nouns (M1, M2, M3, M4, M5, M6). In addition, respondents indicated that mobile edutainment software can help them to understand the use of collective nouns (M1, M2, M3, M6), and also the use of the pictures in the game of "Hidden Object" can help students to understand the use of collective nouns (M4).

CONCLUSION:

In conclusion, this mobile edutainment software is particularly useful to primary school pupils in learning Malay language grammar. In fact, this mobile edutainment software through the "Hidden Object" game is useful and accepted by year four pupils as a learning support material in learning Malay language grammar. Pupils benefit from the software because they have a better understanding of the use of collective nouns in grammar with the help of the accurate and clear pictures. Pupils are more receptive to learning and understanding the lesson content by use of pictures that can be seen. This means that the concrete form that can be seen will help pupils learn the lessons conveniently. Therefore, pupils not only learned the collective nouns through software, at the same time, pupils can play games through the mobile edutainment software.

Therefore, these findings show us the method of teaching and learning through edutainment, preferred by primary school pupils, in addition to understanding grammatical concepts through games. This study also contributes to the usage of mobile phones for primary school pupils, which can be used for learning purposes in accordance with the requirements of the time and location.

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