

## **Effectiveness of Reading for Islamic Education: Design of Multi-Platform Educational Game as Instructional Media**

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**ABSTRACT:** *The purpose of this research is a solution by designing a modern learning media namely windows and android-based multi-platform educational game for Islamic education students that is inserted with reading materials based on the curriculum of english in Islamic educational institution subject for grade 7 students of tsanawiyah school (MTs). This game was designed by utilizing construct 2 software. This research produces a multi-platform educational game namely the Adventure of Timun Mas. Material and media validations were performed by some experts who are competent in their fields. Material validation was done by english teachers of Junior High School and english education lecturers. Meanwhile, media validation was performed by practitioners, game developer, and Informatics Engineering lecturers. From the result of both material and media validation, each validator was summed, and then divided by the overall score and multiplied by 100%. The final result of product validation was 82.95%, indicating that The Adventure of Timun Mas game is valid to use.*

Tujuan dari penelitian ini adalah solusi dengan merancang media pembelajaran modern yaitu windows dan game edukasi *multi-platform* berbasis android yang disisipkan dengan bahan bacaan berdasarkan kurikulum mata pelajaran bahasa Inggris di lembaga pendidikan Islam untuk siswa kelas 7 Tsanawiyah (MTs). Game ini dirancang dengan menggunakan perangkat lunak Construct 2. Penelitian ini menghasilkan game edukasi multi-platform yaitu The Adventure of Timun Mas. Validasi materi dan media dilakukan oleh beberapa ahli yang kompeten di bidangnya. Validasi materi dilakukan oleh guru Bahasa Inggris di tsanawiyah dan dosen Pendidikan Bahasa Inggris. Sementara itu, validasi media dilakukan oleh praktisi, pengembang game, dan dosen Teknik Informatika. Dari hasil validasi materi dan media, setiap validator dijumlahkan, dan kemudian dibagi dengan skor keseluruhan dan dikalikan dengan 100%. Hasil akhir validasi produk adalah 82,95%, menunjukkan bahwa permainan The Adventure of Timun Mas valid dan layak untuk digunakan.

**Keywords:** *Effectiveness Reading, Instructional Media, Educational Game, English Multi-Platform Game.*

*Received: Oct 10, 2019; Revised: Nov 30, 2019; Accepted: Des 9, 2019*

## I. INTRODUCTION

Based on the curriculum, English is taught from primary school until higher education (Ikhwan, 2018). Even though English is taught since primary school, understanding English is not always straightforward for students. In learning English, students need to understand how to use language. To achieve this goal, teachers must focus on developing students' competencies in all language skills.

In general, skills involved in English include reading, speaking, listening, and writing. Amidst the four skills, reading is a crucial skill that can support mastery of other crafts as well as improve knowledge. Text is an essential skill in learning English. Through reading, students can enlarge their knowledge. Modern society must be an excellent reader to succeed (Diamond, 2005). Reading skill does not guarantee any success for anybody, yet the progress is much harder to achieve without being a skilled reader.

However, reading comprehension teachers encountered several problems. Most of the instructional media remain traditional. For instance, teachers write on the board and students copy the writing. This practice is undoubtedly a time-consuming learning process. Also, students only read texts in books. This makes them easily bored, lack of motivation, and results in the low score of reading comprehension. To understand and apply what they have learned, students have to solve problems and figure out all the things they need, so that their learning outcomes can be better. For that reason, it is required an interactive instructional media (Wahid, 2017).

In general, media is an inseparable part of the teaching and learning process for the achievement of educational goals and learning objectives in particular schools (Azar, 2011). If the media carries messages or information that has instructional purposes or contains teaching purposes, then the press is called Learning Media (Arsyad, 2011).

Setyawan at all suggests that the use of instructional media in the learning process can arouse new desires and interests, generate motivation and stimulation of learning activities, and even bring psychological influences on students (W. Setyawan et al., 2018). Abdelraheem identify some of the benefits of media in learning, namely: the delivery of subject matter can be uninformed, the learning process becomes clearer and interesting, the learning process becomes more interactive, and efficiency in time and energy (Abdelraheem & Al-Rabane, 2005).

One of the interactive instructional media is an educational game. Game is one of mobile learning that involves either human-computer or human-human interaction. Competition is an entertaining tool that many people choose to eliminate boredom or to fill their spare time. According to CNN Indonesia, the advantages of playing video games from the science perspective include: (1) 3D video games can increase brain memory capacity; (2) Video games can relieve pain; (3) Improve children's reading and writing skills; (4) Video games can increase the brain volume. On the other hand, Wawan Setyawan et al., define the concept of mobile learning in 3 areas, namely: technological mobility, learning mobility, and mobility of learners (W. Setyawan et al., 2018).

For this purpose, this research was carried out to design an interactive instructional media in the form of a multi-platform educational game accessible by Windows and Android operation systems (Ikhwan, 2012). The Adventure of Timun Emas is a game containing reading comprehension materials according to the curriculum of English

subject of Grade 7 of Junior High School. In some parts of the game, English passages and questions are inserted that commands the players to answer the questions to continue the game. With the provision of items, the players are expected to learn in advance. However, the exciting feeling when students are playing the game makes them not easily fed up.

## II. LITERATURE REVIEW

To date, there are 3.3 millions of Android-based applications in Google Play Store (Source: Google Play Store data in Papadakis, Kalogiannakis, & Zaranis, 2018). This data uncovered that diverse options of applications and games are available for students. The exceptional quality of mobile game developed in this research is that it makes the use of folklore. Kelchner states that lore is the literature of primitive societies that do not yet recognize letters (Kelchner, 2013). The folk that was presented initially in the oral form contained the issue of the traditions of a group of collective societies. In this game, researchers choose folklore entitled Timun Emas that originates in Central Java as the background of the story in the game (Safitri & Adi, 2018). By asserting local wisdom, this game is expected to be more user-friendly and relatable for students. It can be comfortable; they understand form listening (W. Setyawan, 2017).

This game was created using the HTML 5.M programming language. According to Williams (2012), HTML5 is a technology in the world of computer software. Besides being a programming language, HTML5 is also a platform.

Making games to increase student/student interest has been done by many researchers. The difference is this game only focuses on the game, and there is no learning content. Previously, Ramansyah designed an Education game with the theme "My Body" that presented the English learning while playing with an android device (Ramansyah, 2015). The developed the ability to read English texts for non-English students (Pratiwi, 2019).

Application form play store can be made education media to help students understand the material and fun cause it is interactive for audiovisual for listening (W. H. Setyawan et al., 2019).

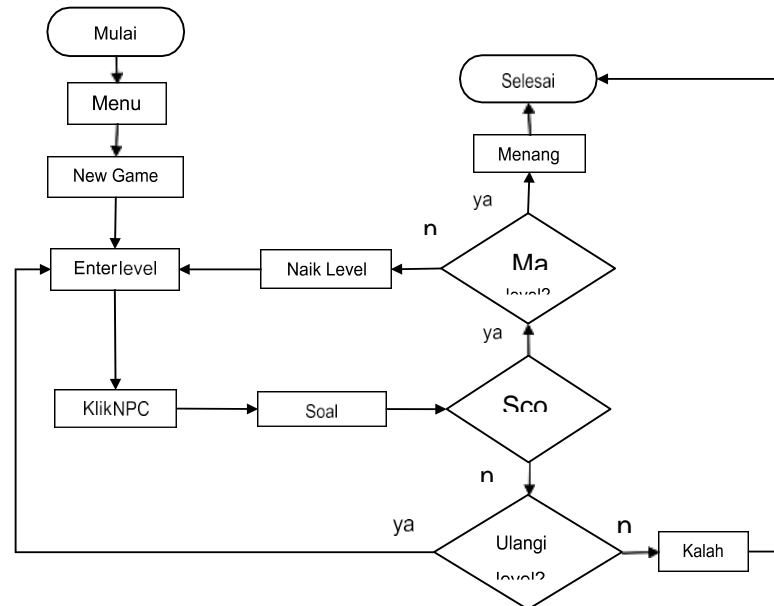
## III. METHOD

### Game Development Environment

The researchers used Construct 2 software to design a mobile application game, namely The Adventure of Timun Mas game. To make users attracted to the game, the researcher used character images such as Timun Mas, Raksasa (Giant), Pak Tani (Farmer), Koki (Chef), salt, cucumber, chilli, and shrimp paste. Images in this game were created with the aid of Adobe Creative Cloud software. Meanwhile, from a hardware environment, the researchers developed this game by adopting hardware with Windows 2010 operation system, Intel Pentium i3 processor, and NVIDIA GeForce GTX 970 graphic processor.

## Game Design

To design the game, a flowchart of the game was created.



**Figure 1.** Flowchart of the Adventure of Timun Mas Game

## Game Test

To test the game, some experts validated this game either the material or media aspect. Material validation was done by English teachers of Tsyawiyah School and English Education lecturers. Meanwhile, media validation was performed by practitioners, game developer, and Informatics Engineering lecturers. After testing the game, the researchers gained feedback and suggestions from the experts. The game was then revised based on the input either the materials, features, or system. The content of the game talks about character building of Islamic majority. This game includes Islamic education to make students interested in reading especially English reading of tsyanawiyah level (Jaelani, 2018).

## IV. FINDINGS AND DISCUSSION

The development of instructional media yielded an educational game named The Adventure of Timun Mas. The features and steps of using this educational game are as follows:

- a. Interface screen that initially appears in the main menu screen.



**Figure 2.** The interface of *The Adventure of Timun Mas*

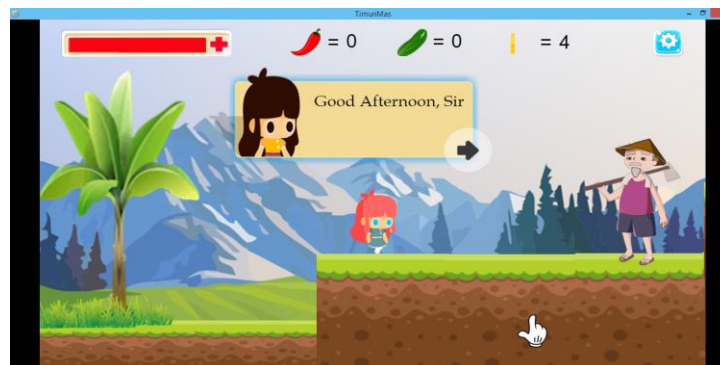
b. In the main menu, click the New Game button.



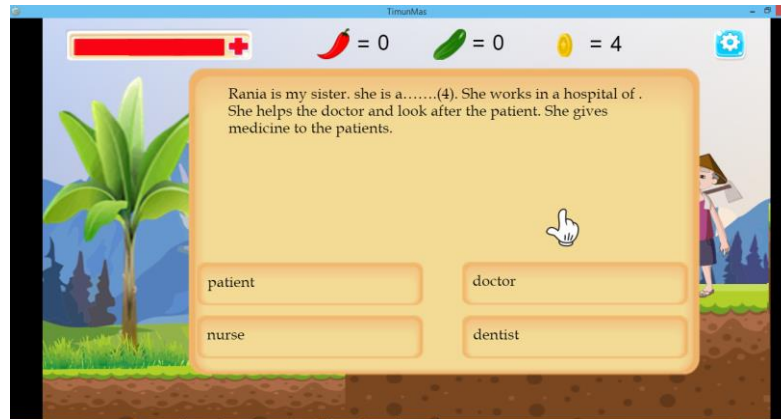
**Figure 3.** The appearance of new game

c. In level 1, click *Petani* (Farmer) character.

There will appear reading passages with comprehension questions of which the players must read to be able to answer the questions. The answered questions would be scored and appear gold star status. The score of 100-85 gets 3 stars, < 85-65 gets 2 stars, < 65-45 gets 1 star, and < 45 gets no star.



**Figure 4.** The appearance of Level 1



**Figure 5.** The appearance of Questions In Level 1

d. If the players get stars

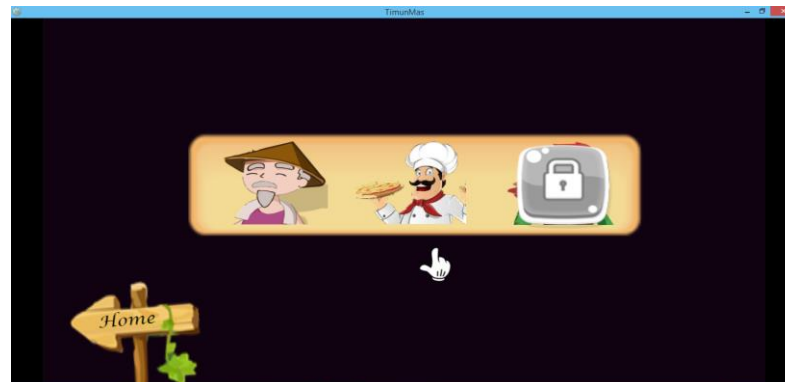
They will get bamboo basket item to harvest cucumber and chilli that will be stored in player inventory. If the players fail to get leads, there will appear an offer to repeat the level or end the game. If the players opt to repeat the standard, they will go back to Level 1. If the players choose to end the game, they will quit the competition.



**Figure 6.** The appearance of Score Result

e. In level 2, click Koki (chef) character.

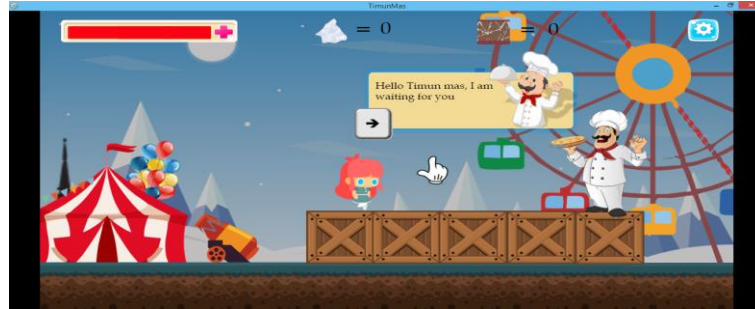
There will appear reading questions. The players have to answer the questions to get stars. The main character is calm and religious. He always smiles at everyone.



**Figure 7.** The appearance of Level 2

f. If the players get stars

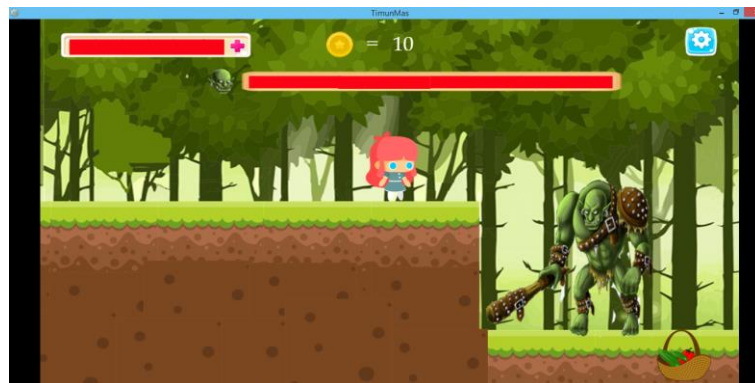
They will get knife item to cut a chunk of salt and shrimp paste that will be stored in player inventory. If the players fail to get leads, there will appear an offer to repeat the level or end the game. If the players opt to repeat the standard, they will go back to Level 2. If the players choose to end the game, they will quit the competition.



**Figure 8.** The appearance of Level 2

g. In level 3, Timun Mas will face Giant character.

The players can take items from inventory and put the details such as salt, shrimp paste, chilli, and cucumber in front of Giant. When things are placed, there will appear reading questions. The players have to answer the questions to get stars.



**Figure 9.** Appearance when the giant comes into view

h. If the players get stars

The items will transform to be the hazardous barriers for the Giant. Therefore Timun Mas can defeat the Giant, and the game ends in a victory. If the players fail to get stars, the Giant will keep moving and get closer to Timun Mas, and eventually, the Giant will catch Timun Mas, and the game ends in a defeat

**Tabel 1**  
**Total Result of Material Validity**

No	Course Group	Total Score	Percentage	Criteria
1.	Validator 1	49	89%	Very Valid
2.	Validator 2	46	83.6%	Very Valid

**Table 2**  
**Total Result of Media Validity**

No	Course Group	Total Score
1.	Validator 1	69
2.	Validator 2	74
	Total	149
	maximum score	180
	Percentage	79.5%

## V. CONCLUSION

The conclusion from media validation by the two experts revealed some things to improve. The character of this game has an interest in nature the Muslim building. They identified some lags on game animation. Also, there are some missing parts in reading questions. However, The Adventure of Timun Mas game achieved proper evaluation in general. From software development side, the selection of a software development environment was precise. The game is usable and manageable. Besides, as an interactive game, The Adventure of Timun Mas game is valued innovative. From audiovisual communication side, the selection of back sound, colour, font, and animation in the game attained proper evaluation. Hence, software and audiovisual communication in The Adventure of Timun Mas game are valid to use with some revisions to smooth animation movement and to make reading passages readable.

## VI. ACKNOWLEDGEMENTS

Thank you for GOD also DPRM dikti dan Universitas Islam Balitar, Blitar, East Java who had to support us to develop this research.

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