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Introducing Ancient Egyptian History Through Educational Games : A Case Study of Archeologist Ancient Egypt

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Abstract

Learning methods are an approach used in the learning process to help students understand the material being taught. Learning methods are closely related to students' learning motivation, especially in history subjects, which are often perceived as boring by some students. Interactive and enjoyable learning, such as educational games, can help improve students' understanding during the learning process. The purpose of this study is to evaluate the effectiveness of educational games as a learning medium for Ancient Egyptian history.. Number of respondents who participated in the questionnaire (63 respondents). A brief explanation of the data analysis method, namely quantitative descriptive analysis for questionnaires and simple thematic analysis for case studies. A brief explanation of the Systematic Literature Review (SLR) procedure, including the article search stage, inclusion/exclusion criteria, and data synthesis we use. To achieve optimal results, data were also collected through questionnaires and a case study of the game Archeologist Ancient Egypt. Based on the questionnaire, 87.3% of respondents agreed that educational games can enhance students' understanding and motivation, particularly in history subjects.

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INTRODUCTION

Education will continue to develop along with technological developments, learning media innovations are very diverse in today's digital era, one of which is educational games. Educational games provide interactive learning and can increase student motivation in learning, so that it becomes one of the learning media that can motivate children, especially in history subjects which are often considered boring by some children.

History education plays an important role in developing a creative and critical mindset to improve the ability to search, process and package information. Studying history is very important, because learning from the past if delivered well and interestingly (Muhtarom & Kurniasih, 2020). However, there are still many deliveries of history that are less interesting to children, because of the one-way learning method.

One of the interesting history lessons to be discussed is the Ancient Egyptian civilization. There are so many interesting elements to be learned, starting from the kingdom of Fir'aun, making pyramids and the Nile River as a source of life. Through an educational game approach, Ancient Egyptian material can be a history lesson for elementary school students with a more interesting and easy-to-understand delivery.

The Archeologist Ancient Egypt game is one of the games that raises the theme of Ancient Egypt by presenting the user experience as an archaeologist to find treasures with packaged Ancient Egyptian historical information. With an attractive visual approach and simple game mechanics, *the Archeologist Ancient Egypt* game has the potential to increase students' understanding and motivation to learn about the history of Ancient Egypt.

This research uses a descriptive qualitative approach with the *Systematic Literature Review* (SLR) method to get maximum results, a questionnaire was also conducted through *Google Form* by targeting parents and children aged 7-12 years who have the habit of using *gadgets or smartphones*.

The purpose of this research is to examine the effectiveness of educational games as learning media in improving students' understanding of Ancient Egyptian history and motivating them to learn. The case study on *the Archeologist Ancient Egypt* game evaluates how history-based educational games can improve

students' understanding of learning. The case study focuses on the game's educational and visual features that can increase elementary school students' interest in learning Ancient Egyptian history.

RESEARCH METHODS

The research method is an important stage that is systematically arranged to obtain valid data so that the research can be developed in accordance with the results of the data obtained. This research uses a descriptive qualitative approach with the *Systematic Literature Review* (SLR) method.

To get maximum data results, this research is based on a *Research Question* (RQ) with the aim of focusing the research direction. The instrument used in the *Research Question* is to conduct a questionnaire through *Google Form* with the target parents and children aged 7-12 years.

The Research Questions in this study are as follows: 1) What are the perceptions and responses of parents and children to educational games as a medium for learning history? 2) Can the visual elements and interactions in the game improve students' understanding of the history of Ancient Egypt? 3) How is the effectiveness of educational games in the learning process?

In the *literature* analysis, this research took data from several national and international journals with the keywords of educational games. The main topic of discussion is the method of learning children through educational games and the effectiveness of educational games on learning. Case study on *Archeologist Ancient Egypt* game which is one of the educational games based on the history of Ancient Egypt can strengthen the data in this research. *Archeologist Ancient Egypt* game was chosen because it is relevant to the topic of discussion, by analyzing aspects such as visual design, interactive elements, and information conveyed.

RESEARCH RESULTS AND DISCUSSION

Game comes from English which means entertainment with games that aim to have fun. Game is a game with the aim that players can complete the mission, while education is the formation of a person's character through learning which is then implemented in

everyday life (Rendy Irawan et al., 2024). Educational games are a type of game that aims as education by involving design elements that affect thinking skills such as logic, strategy, and problem solving (Becker, 2015). It can be concluded that educational games are entertainment activities that influence through education with the aim of helping to improve one's thinking skills and character development.

The provision of material in history lessons is still static, there are no changes made by the teacher, usually lessons are delivered by the lecture method and there is no interaction between students, (Asmara, 2019). This gives rise to the perception that history is boring, because of the one-way way of learning.

Taken from research, (Pama & Safitri, 2023), with the title "The Effect of the Lecture Method on Indonesian History Subjects" obtained results, the lecture method in history subjects shows that the application of the lecture method has a positive impact and influence on student learning motivation, and learning outcomes increase when students are given the lecture method. However, the need for an active teacher role so that student focus is maintained, in addition to one-way learning, teachers are also advised to balance the lecture method with other methods.

The use of monotonous learning methods, models and media can make students quickly feel bored, this has an impact on learning interest (Zulfah, 2023). Student interest in learning needs to be increased by delivering good methods. Learning methods by playing games not only help students understand the lessons presented. Playing games can forget the fatigue that a person experiences by doing activities that involve strategy and reasoning, (Sandy & Hidayat, 2019).

Educational Game Learning Method

History learning presented by teachers is usually monotonous, with no interesting interaction for children. Students' interest in learning will increase if there is an interesting and interactive learning method. Educational games are one of the interesting learning methods, by playing games students can better understand the context of the lesson. Students will be more motivated to learn if the things they enjoy are made into things they learn.

With learning motivation, students will be more eager to learn and become more active. Without

motivation and enthusiasm for learning, students will lose focus, especially if the lessons delivered are monotonous. Learning actively, and effectively is the presence of student interest and focus in learning, student learning motivation is one of the main conditions in the development of learning and optimal results if with the right motivation, (Jamilah et al., 2024). Educational games are a learning method that can increase learning motivation. From previous research, (Zulfah, 2023) it is proven that educational games can increase children's learning motivation.

Based on the results of a questionnaire conducted by distributing *Google Forms* to parents and children with a total of 63 respondents, which aims to determine the extent of perception, understanding and opinion of parents and children regarding educational games on learning the history of Ancient Egypt. The results can be seen in table 1.

Table 1. Educational games as learning media

Answer	f	%	Average
Yes	52	85.2	74.80
No	9	14.8	

Data from Table 1 shows that 85.2% of respondents agreed that educational games can be used as a medium for children's learning. The remaining 14.8% of respondents disagreed with educational games as a learning medium. This shows that educational games are seen as effective in helping children understand lessons, especially history.

Educational games are viewed positively as learning media, with various advantages compared to one-way learning media. Educational games can also increase knowledge through game strategies, as well as improve children's memory through visual elements in the game (Vitianingsih, 2016). Educational games are not only a learning tool, but also a way to think critically and help students in problem solving.

Table 1. Interesting elements so that educational games can be more easily understood by children

Answers	f	%	Average
Challenges and missions	30	49.2	42.16
Visuals	29	47.5	
Characters	29	47.5	
Story and plot	16	26.2	
Interactive audio	11	18	

From table 2 with the discussion of interesting elements in educational games as a child's understanding, 49.2% of respondents chose challenges and missions, 47.5% of respondents chose interesting visuals and 47.5% of respondents chose interesting characters. While the remaining 26.2% of respondents chose interesting stories and narratives and 18% of respondents chose interactive audio.

Challenges, missions, and interesting visuals are important in game design. These elements can help create an interactive and fun experience. Children remember more easily through visuals than text, because their visual-spatial intelligence can be stimulated through media that incorporate visual elements, such as pictures and diagrams, (Harmonis et al., 2022). With the challenges and missions in the game, players are invited to be active in the learning process. Challenges provide a stimulus for critical thinking and problem solving, while missions provide clear goals to achieve, which can motivate players to continue to be enthusiastic about learning through educational games. According to (Santoso, 2022), there are 3 things that make children interested in games, namely, games are more fun and interesting compared to reading, games provide challenges through levels that must be passed, and games can make children feel connected to their opponents through interactions between players.

Case Study: Ancient Egyptian Archaeologists

Archeologist Ancient Egypt is a children's educational game that features a puzzle game, where children can discover secret rooms and find hidden treasures like an archaeologist. Players are asked to find hidden artifacts by breaking rocks, cleaning and arranging the artifact fragments. With 10 different locations, children can find different artifacts with different historical information.

The Archeologist Ancient Egypt game is one example of an educational game that discusses the history of Ancient Egypt. Although this game has advantages as a learning media, there are several aspects in the field of design that can be improved. The questionnaire given aims to find out the opinions of parents and children towards the *Archeologist Ancient Egypt* game as a learning medium for Ancient Egyptian history. The following table shows the results of the data on the attractiveness of the *Archeologist Ancient Egypt* game

Table 2. Interest in *Archeologist Ancient Egypt* game

Answer	f	%	Average
Very interested	17	33.3	27.56
Interested	18	35.3	
Average	6	11.8	
Not interested	8	15.7	
Very not interested	2	3.9	

Seen in table 3 from the questionnaire given, 35.3% of respondents were interested and 33.3% of respondents were very interested. This shows that the majority of respondents as much as 68.6% have a positive view of the *Archeologist Ancient Egypt* game as a medium for learning the history of Ancient Egypt. This interest is seen from several aspects of the elements in the game such as visuals, challenges, and information provided.

Table 3. Information provided in the *Archeologist Ancient Egypt* game

Answer	f	%	Average
Very informative	20	39.2	38.17
Informative	23	45.1	
Average	8	15.7	
Not informative	0	0	
Very uninformative	0	0	

Seen in table 4 from the results of the questionnaire given, 45.1% of respondents stated that the *Archeologist Ancient Egypt* game was informative and 39.2% of respondents stated that the *Archeologist Ancient Egypt* game was very informative. The majority of respondents as much as 84.3% considered that the information conveyed in the game was informative, seen from the information provided was quite complex with simple presentation. This shows that the *Archeologist Ancient Egypt* game can be an effective learning media in helping to understand the history of *Ancient Egypt* in a fun way.

User Interface Design and User Experience

User Interface (UI) is a tool used to control digital objects, a good interface design is not only concerned with visual aesthetics but must be able to function properly, (Wandah Wibawanto & Rahina Nugrahani, 2018). Figure 1 is the initial appearance of the *Archeologist Ancient Egypt* game.



Figure 1. An early look at the Ancient Egyptian Archaeologist game. Source: Ancient Egyptian Archaeologist

The initial appearance of this game is very simple so that players who target children can easily adapt without the need for complex instructions. From the data obtained, some people mentioned that there was a lack of user interaction with this game, so the *user experience* (UX) was not optimal. Players are only given repetitive obstacles at each level without any in-depth interaction. From the results of the questionnaire, 47.5% mentioned that with interesting characters, understanding lessons will be easier for children to understand. However, in the *Archeologist Ancient Egypt* game, there is no character interaction so that the user experience of the information provided is not optimal.

According to (Riwinoto et al., 2016) a boring game is due to a low level of difficulty, the game falls into the boring zone because the game is too easy. each level in *Archeologist Ancient Egypt* shows the same experience and difficulty level, this can make the game boring because there is no difficulty at each level.

Visual Graphics Design

Images or visuals are important because basically humans can better understand information through images compared to text. According to (Nurhardian et al., 2015) images are divided into two types, vector images, namely, images formed with points, and bitmap images, namely, images based on the representation of bits that form *pixels* and colors.

In the *Archeologist Ancient Egypt* game, the visual images used use *vector* images. This type of image is commonly used for educational games because clear shapes and striking colors can focus the player's attention. So that the information provided can be conveyed properly. The selection of colors and shapes in the *Archeologist Ancient Egypt* game is very supportive as a good children's educational game. Can be seen the visual game *Archeologist Ancient Egypt* in the following image.



Figure 2. Ancient Egyptian Archaeologist gameplay.

Source: Ancient Egyptian Archaeologist

Information and Educational Content

Educational games have the advantage of packaging information in the form of interactive visuals that can make it easier for children to

learn, besides that, children's knowledge and memory can increase by playing games (Vitianingsih, 2016). Visual interactions such as interactive images, animations, and challenges can enhance an immersive learning experience. Educational games usually use reinforcing elements to motivate children to continue learning, such as points, levels and awards. In the *Archeologist Ancient Egypt* game there are 10 artifacts with different information. Information is given at the end of the mission, the information provided is quite simple and in the form of text, as in Figure 3.



Figure 3. Information about the game Ancient Egyptian Archaeologist. Source Ancient Egyptian Archaeologist

However, information at the end of the mission can reduce the effectiveness of children's learning through educational games. Because it is likely that children are impatient to play the next level and tend to skip reading important information in educational games. According to (Santoso, 2022) learning interaction throughout the game is more effective in delivering information and better understanding. It would be nice if the information is provided interactively through games, with approaches such as, audiovisual, or brief explanations with interesting interactions.

Table 4. Archeologist Ancient Egypr game as an educational game for kids

Answer	f	%	Average
Yes	50	98	96.12
No	1	1	

Archeologist Ancient Egypt game is an educational game that is quite effective as a medium for

children to learn about the history of *Ancient Egypt*. However, it still has shortcomings in the delivery of educational content and user experience. In table 5 which shows whether the *Archeologist Ancient Egypt* game can be a good educational game, 98% of respondents think that the *Archeologist Ancient Egypt* game can be a good educational game for children and is considered effective for increasing children's understanding of *Ancient Egypt* with changes to the interaction in the game.

The results showed that the majority of respondents (85.2%) agreed that educational games can be used as a medium for learning about Ancient Egyptian history, with the most interesting game elements including challenges and missions (49.2%), visuals (47.5%), and characters (47.5%). These findings support the theory of learning motivation put forward by Deci & Ryan (2000) through the framework of Self-Determination Theory, where intrinsic motivation can be triggered by enjoyable learning experiences, curiosity-spurring challenges, and active involvement in learning activities. Attractive visual elements in educational games contribute to increasing students' learning motivation by presenting a more contextual learning experience, in accordance with the principles of Multimedia Learning described by Mayer (2009). Engaging visuals help students build stronger mental representations (mental models), thereby improving their understanding of abstract historical concepts. The in-game elements of missions and challenges, as found in the Ancient Egypt Archaeologist game, provide a sense of achievement and increase student engagement in learning. According to Malone & Lepper (1987), the progressive challenge element in games can increase students' intrinsic motivation as they are encouraged to complete task after task gradually. In addition, attractive characters also have an important role in motivating students. Characters can provide a more personalized and immersive learning experience, creating an emotional attachment that makes students more connected to the learning material (Gee, 2003). This is in line with the results of the questionnaire which showed that almost half of the respondents (47.5%) considered that interesting characters in games can help them understand historical material better. Overall, these findings show that the integration between visuals, missions, and characters in educational games contributes significantly to student learning motivation. Thus, the design of educational games must consider the integration of these three elements in order to

create an effective, fun, and motivating learning experience for students in learning the history of Ancient Egypt.

CONCLUSION

Research on educational games as learning media for Ancient Egyptian history shows that learning methods using educational games with interactive elements such as visuals, characters and challenges can help students increase learning motivation. History topics that some children find boring can be learned in a fun way through educational games. By using a game-based learning approach, students can be more motivated to be actively involved in the learning process, educational games not only function as entertainment media, but also as an effective and efficient learning tool with the aim of increasing children's understanding and motivation in learning. Educational games can be implemented as independent learning at home, by utilizing children's free time to learn through technology-based learning without relying on learning at school. *Archeologist Ancient Egypt* game can be a choice of educational games that learn about the history of *Ancient Egypt*. However, it is still not optimal and the lack of interaction in the educational content provided. Further development is needed, by designing a good educational game in increasing the effectiveness of children in learning the history of Ancient Egypt.

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