THE MAKING OF EDUCATIONAL GAME AS A LEARNING MEDIA

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Abstract

The purpose of this study is how the procedure for making learning media using Smart Apps Creator. This is done to make children interested in learning so that it has implications for increased learning outcomes. The method of the research is Research and development using procedures as follows *Analysis, Design, Development and Evaluation.*
The results of this study are first, making learning media is used by adjusting the ADDIE procedure. Second, the learning media product is said to be interesting and feasible to use as shown by the validation results from the material expert in the Very Eligible category with a score of 5. A score of 4 is categorized as Eligible. Entered in the Not Too qualification with a score of 3. Infeasible category with a score of 2. And Very Inappropriate category with a score of 1.

Keywords: *Smart Apps Creator,* **Learning Media, Educational game**

1. Introduction

The development of increasingly advanced technology makes the world more modern with the evidence of sophisticated equipment such as smartphones. Where this tool is very popular with school-age children until they forget outdoor activities, become addicted to playing games using these tools, forget about time, and eventually become lazy to do their main task as students, namely studying (Machina & Gokhale, 2015; Richards, 2002; Shikuku, 2019).

It must be admitted that smartphones have several advantages that attract people of all ages. The tool is able to connect the world easily because it is connected to the internet. This makes information, communication, and even knowledge very close and very fast (Abdussamad et al., 2022; Sui & Yao, 2021; Thakur et al., 2016).

However, apart from the advantages, smartphones also have disadvantages. Smartphones are so charming in their uses and functions that they make people who use them lulled, forget themselves, to depend on this tool. Simple indications that arise

are difficulty concentrating when not holding a smartphone, poor social intelligence, laziness, excessive aggressive and defensive attitude, and a high sense of addiction to this device ("Flight Gadget Ban," 2017; Malarvizhi et al., 2022).

Parents play an important role in the growth and development of children, especially how their interactions develop. Including regulating the procedures, duration, to what content their children are allowed to access. Participating in choosing and determining what can be opened is the obligation of parents. So that the function of smart phones as a tool in learning activities becomes optimal (Suyadi & Selvi, 2022; Yohana & Mulyono, 2021).

In practice, children are too free to use gadgets. Some content that is not suitable for them is also violated due to lack of parental intervention. So they don't learn but play. They play games using these gadgets. Either the game is offline because it has been installed from the application service provider either from the play store or IOS. Or from games that are online, which are connected to the internet. And it is said that the latter, if not controlled, can cost a lot of money. Because you have to pay for this and that. This is why parents really have to control (Suyadi & Selvi, 2022; Yohana & Mulyono, 2021).

In general, games are entertainment to fill spare time. Games can also aim to eliminate boredom and fatigue because of anything. So that by playing games, people become refreshed because their functions are the same as recreation. The word play is actually the key. Because this is also the basis of their interest in using gadgets. They use gadgets a lot to play games. So, how about making an interactive game such as an educational game to attract their attention. This makes them get two things at once. The first is the thing they like, namely playing games and the next is that they also learn while playing the game without realizing it (Allal-Chérif et al., 2022; Andreani & Ying, 2019; Haleem et al., 2022).

Educational games made in this study are also as a medium of learning for children. Its function, of course, is to keep them learning while playing. And slowly, with this educational game, they can change their bad habits as described above. So the implication that arises is that children can improve learning outcomes. The children referred to here are children aged 7-12 years in RT 03 RW 15, Gebang, Banjarsari Village, Surakarta City, Central Java, Indonesia, a total of 18 children.

Another problem that was found in connection with this research besides excessive use of gadgets that gave rise to bad traits in children was the lack of public awareness in supervising and inculcating positive character education in children and the absence of efforts to prevent children from playing gadgets. Excessively then directs children to do other positive things besides immersing themselves in gadgets.

On the basis of the above thoughts, an educational game was made as a learning medium using Smart Apps Creator 3 to prevent bad things from happening because children are addicted to gadgets or direct them to other positive things so that it can

help children's learning process. children and have implications for increasing their learning scores.

2. Literature Review

a. Games

Game is a game that is played with certain rules so that there are winners and losers. The goal is to find fun, refreshing, and boredom killer. The tools used can be real things such as balls, sticks, and ropes that can be played for real, or virtual because they can be played using certain gadgets or computers of any type (Andreani & Ying, 2019; Haleem et al., 2022; Raybould et al., 2022; Yim et al., 2023; Yohana & Mulyono, 2021).

b. Educational Games

Game is a structured activity. Apart from being entertainment, games can be used as a learning tool. This is inseparable from the characteristics of games that are fun, motivating, and collaborative. Some games are designed as simulations by imitating real-life activities for practice and analysis purposes. Airplane simulations, business games, cooking demos, etc. are some examples. Learning through games is allegedly able to improve logic and understanding of a problem. So an educational game is a game that has both educational and entertainment elements to help users learn while playing (Allal-Chérif et al., 2022; Andreani & Ying, 2019; Raybould et al., 2022; Yohana & Mulyono, 2021).

Like anything else, games can have both positive and negative impacts. The positive impact is that boredom and boredom, free time, entertainment, can be obtained quickly without barriers. Because the game is possible to play using sophisticated tools that are portable and always handheld. While the negative things produced by the game is that the game lulls and makes you forget. Being lazy is the next result. This is mainly due to the addictive feeling of being interested in playing games excessively (Allal-Chérif et al., 2022; "Flight Gadget Ban," 2017; Haleem et al., 2022; Yohana & Mulyono, 2021).

c. Smart Apps Creator 3

Smart Apps Creator 3 is software for creating applications based on Android or IOS. This software besides being able to be made with HTML 5 and exe can also be designed without programming code. This convenience makes Smart Apps Creator 3 chosen as software to create game applications that aim to educate or as a learning medium. Educational games produced from this software can be run on various gadgets such as personal computers, tablets, and smartphones. In addition to making from scratch, this software can also be used to develop several

existing mobile applications with various purposes such as the learning application itself, tourism, company profiles, product membranes, marketing purposes, and others (Azizah, 2020; Khoirudin et al., 2021).

d. Learning ages 7-12

The 7-12 year age phase for children is the phase of starting independent learning both in terms of developing communication skills and interaction skills. The interaction and communication in question can be with anyone. Starting from family, playmates and schools, neighbors and teachers. So that children are trained to be critical and sharp in thinking. This age range is also a period of cognitive development. From simple and concrete levels to more complex and abstract levels. Some characteristics of the cognitive development phase is that children are active learners, organizing lessons from what they experience. Then assimilate and adapt to the surrounding environment, and. an increase in the ability to think in a more complex direction (Brereton et al., 2022; Chalkley et al., 2022; Khan et al., 2021; Romaioli & Contarello, 2021; Staddon, 2022).

e. Research Method

The method used in this study is the R&D (Research and Development) method, which aims to describe a situation or a phenomenon, then the data analysis used to analyze the research results is adjusted to the existing data (Deutsch, 2001; Howe & Rabinowitz, 1997). The population in this study were children aged 7 to 12 years in Gebang, Banjarsari, Surakarta and with a total of 10 children and responses from parents. The sample of this research is 10 children from the existing population. From the population, 10 children aged 7 to 12 years were taken. Data collection techniques through interviews, observation, documentation, and questionnaires. The research procedure starts from research and information collecting, planning, developing preliminary form of product, preliminary field testing, main product version, main field testing, operational product revision, operational field testing and final product revision. And after the series, the last one is dissemination and implementation. The locus of this research is in Gebang, Banjarsari, Surakarta City (Borg et al., 2003; Nasution, 2016).

f. Result and Discussion

The making of this educational game uses research and development methods adapted from Borg and Gall. From the 10 steps of the development stage, the researcher used seven stages. The order is: *Research and information collecting*, *planning*, *develop preliminary form of product*, *preliminary field testing*, *main product revision*, *main field testing, and operational product revision* (Borg et al., 2003)*.*

a. Research and Information Collecting

The preliminary study consists of two activities, namely field studies and literature studies. Field studies as the beginning of the process before development or manufacture, were carried out by collecting data in the field involving respondents from elementary school children and their parents by asking several questions related to the need to support the manufacture and development. Then a literature study was carried out by collecting information about the products to be made and developed and their relevance to the learning that would be applied in the primary school children's playgroup. Literature studies are carried out from various sources such as books, journals both nationally and internationally, internet sources and other reference sources.

b. Planning

Flow planning is to determine the flow of the game which consists of the initial display, the menu display, the display of each derivative from the main menu, the initial display to the end of the game, determining the characters and characters, determining the supporting images and sounds, making questions and grids that are in accordance with the basic lessons. , gives sound effects, animations and images, determines the rules of the game, determines the type of tone and action used.

c. Preliminary Develop Form Product

The product development process uses an application software called Smart Apps Creator 3. The game flow is made first in the flowchart, namely the design of each step of the instructions in the game flow.

d. Preliminary Field Testing

After the product is made and developed, then the product is tested for feasibility based on media, material and language terms. Products are validated and assessed by expert validators or lecturers who are experts in their fields. Validation is done by providing an instrument questionnaire that has previously been validated by the appointed lecturer. Validation sheets were given to two media expert validators, and material expert validators.

Based on the validation that has been done by media experts, it can be concluded that there are three aspects of the assessment including: aspects of media efficiency, aspects of media accuracy, aesthetic aspects, for students to get the total percentage of two media experts is 90% so that the media is very feasible to use.

e. Main Product Revision

Proses revisi dilakukan untuk menyempurnakan produk pengembangan. Sehingga prosesnya dilakukan setelah didapatkan hasil pengujian lapangan terbatas dengan perbaikan-perbaikan sesuai saran yang telah diberikan. Selain penilain produk sesuai dengan indikator pernyatan yang telah

disediakan, validator juga memberi masukan dan saran yang digunakan sebagai bahan untuk memperbaiki produk. Masukan tersebut kemudian dijadikan acuan untuk perbaikan produk.

The revision process is carried out to improve product development. So that the process is carried out after the results of limited field testing are obtained with improvements according to the suggestions that have been given. In addition to evaluating the product according to the statement indicators that have been provided, the validator also provides input and suggestions that are used as material to improve the product. The input is then used as a reference for product improvement.

f. Main Field Testing

The trials were conducted on a small scale and large scale trials. This preliminary or limited trial was conducted at Gebang Rt 03/ Rw 15 involving several elementary school children Rt 03/ Rw 15. The data collection technique during the preliminary test used a questionnaire calculated using a Likert scale to determine the feasibility of the developed product. elementary school children, the research is assisted to complete the questionnaire.

Based on the results of preliminary trials or those that have been carried out on 7 respondents who have been carried out on elementary school children, it is found that 86% and it is stated that the product is included in the very attractive category. After conducting a small-scale trial, the product is then carried out on a wider-scale trial.

Extensive trials were carried out to find out more about the feasibility of products that have been made and developed as learning media. The results of the large-scale trial are as follows:

The results of field tests conducted in Gebang, Banjarsari, Surakarta Rt 03/Rw 15 and it was involving 18 respondents stated that educational games were categorized as "very interesting" products with a total percentage of 92%. From all of this, it also asks for responses from elementary school children on the feasibility of the product being developed, the product is also assessed by parents/guardians. This assessment is carried out to see the feasibility and responses from the aspect of the teacher when accompanying children to learn. There are two aspects, namely aspects of basic subject matter and aspects of media feasibility.

The results of field trials that have been carried out in Gebang, Surakarta Rt 03/Rw 15 involving 3 respondents, parents/guardians stated that educational games are very helpful for teaching lessons and are also categorized as "very interesting" products with a total percentage of 88%.

In addition to providing an assessment based on the reality of the questionnaire, parents/guardians also provide comments on products made or

developed to get better products. The responses and suggestions from parents/guardians are as follows:

Based on the responses above, it can be concluded that this game is very feasible to use and is very helpful in the learning process of children and teaching children.

g. Operational Product Revision

Based on the results of the responses of elementary school children and their parents/guardians obtained from field trials, suggestions and responses were obtained for the products made or developed, namely the product can be accessed by all types of smartphones. And there are also comments that educational games are one of the media that help parents/guardians to teach children about basic lessons. Given that it can run on all smartphones except IOS. Then based on the results of the percentage calculation obtained from filling out the questionnaire, the assessment also found out that educational game products that were made or developed were included in the very interesting category used as learning media and helped in the learning process for elementary school children who were less active, felt bored, played while learning (Borg et al., 2003).

5. Conlusions and Suggestions

Game Smart Creator Learning is stated to be very interesting, based on the results of the percentage of expert validation, namely: 90% of media experts. Furthermore, the results of the response of elementary school children and their parents/guardians in the limited trial were 86% while the wider trial with 92% and the guardians/parents were 88% with the product category "very feasible" as a learning medium for elementary school children.

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