Development Of Educational Games To Introduction COVID-19 In Early Childhood

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Abstract. During the Pandemic, COVID-19 is an unwanted virus in human life and is closely related to public health. The introduction of COVID-19 as early as possible needs to be socialized to anticipate the return of this pandemic case. This research aims to describe and analyze the implementation the role of parents in introducing the corona virus to early childhood. The research method uses a qualitative descriptive approach. The research subjects were five families who have preschool children. Determination of the subject using purposive sampling technique with the criteria of families who have preschool children aged 3-6 years and located in RT 006 RW 07, Perum 2, Tangerang, Banten. Collecting data using interviews, observation, and documentation. Data analysis used the Miles and Huberman model with the stages of data collection, data reduction, data display, and data verification. . The conclusion of this study is that parents have played their role in introducing Covid-19 using TV, Handphone, and youtube media; be an example in preventive action; as well as teach various preventive measures with assistance, explanation, and persuade children who find it difficult to carry out self-protection measures from Covid-19. However, the introduction of Covid-19 was done more by mothers than fathers. So that cooperation and the role of fathers are needed to support and complement the efforts made by mothers in introducing Covid-19 to children.

Keywords: Android, Game Education, Construct 2.

INTRODUCTION

The COVID-19 pandemic that has spread around the world has made many changes to occur in all organisms in the city, including children. Distance learning, which suddenly has to be applied to every school, is carried out without careful preparation because the education pattern in most schools in Indonesia still uses conventional methods. This makes many educational providers overwhelmed in providing supervision and delivering learning materials optimally, especially providing knowledge to early childhood about the dangers of a pandemic and the importance of maintaining personal hygiene to prevent transmission of COVID-19 which is considered quite difficult because there is no direct interaction. [1].

Knowledge of personal and environmental hygiene in early childhood can be interpreted as an effort to form a basic commitment in caring for oneself and the environment. Lack of knowledge about how to wash hands in children properly and correctly is clearly a problem that is currently being faced [2]. From an early age, children should be introduced to a sense of responsibility and care for the environment and themselves, especially during a pandemic emergency where children are the vulnerable age group [3].

COVID-19, which infects children, only shows symptoms of seasonal viral infections such as flu, cough and fever, so parents often ignore it. In fact, this symptom is a threat to the social sphere in the spread of COVID-19 in the smallest social sphere (Yang, Liu, Li, & Zhao, 2020). If infection in children has occurred, it will pave the way for virus exposure for a wider community [4].

It is very important for parents to talk to their children about the COVID-19 outbreak. Discussing the coronavirus outbreak with calmness made him feel protected. As the coronavirus outbreak unfolded, parents faced questions from children who had received bits of information from the internet, TV, teachers and even friends. When hearing the corona virus it might sound like something scary for children to deal with, because there is a lot of fear and uncertainty surrounding this disease. But just like in a situation like this, it is important to present yourself as a supportive and protective figure in the midst of children's confusion, so that in providing an understanding of Covid-19 to children you must use simple methods, not to make children worry and afraid.

Sending messages about the Covid-19 pandemic to children cannot be the same as delivering messages to adults. Between adults and children cannot be equated because the communication patterns are different, because children need language that is easier to understand. The right way to educate children in the midst of the Covid-19 pandemic can be done by inserting health messages when carrying out daily activities through visual messages.

Game is one of the entertainment media which is someone's choice to get rid of boredom or just to fill spare time. Apart from being a medium of entertainment, games can also be a medium of learning, or what we call educational games [5]. In their journal entitled "Popular Games, Can Any Concept of Cognitive Prescholers Be In It?" Computer games were originally created for fun and entertainment purposes, but they have recently focused on things that give the user more benefits, so-called serious gaming. Serious gaming uses education to put something useful through the gaming experience.

Educational games provide many benefits for players, including stimulating thinking and increasing motivation. Previous studies have shown some ease of use and usefulness of educational games in learning activities. Educational games are games designed or made to stimulate thinking, including increasing concentration and solving problems. Molina, still in the same research, added that, edugame is a game that is used in the learning process and in the game it contains elements of

education or educational values [6]. Games have a contribution to motivate learning [7]. Games are not only limited to entertainment facilities, but have developed into an educational medium that has a learning pattern to solve a problem in order to improve one's brain development [8]. The Journal of Computer Science and Informatics, entitled "Building a Walisongo Historical Educational Game", said that the subject matter of Walisongo's history was introduced in grade V of Elementary School in the subject of Social Sciences and Islamic Cultural History in class VI Madrasah Ibtidayah. However, the students' paradigm in these subjects was not very good because they considered the material being taught too complicated, extensive and tended to memorize a lot [9].

Educational Games for Recognition of Limbs and Recognition of Numbers for Children with Special Needs (ABK) with Kinect-based mental retardation states that many learning methods have been used and all refer to one principle, which is easily accepted and remembered by mentally retarded children. One of the methods used in the learning process of mentally retarded children is using game media, which can dance and increase their interest in learning. This study aims to build a game that can be used to introduce the parts of the body and introduce numbers. This educational game is based on kinect so that it is interesting and interactive, it can help mentally retarded children in learning. The research was conducted in SLB schools, especially SLB-C YPSLB Surakarta with reference to the special school curriculum. Making this game using the main software Unity3D, Kinect SDK and supporting software 3DsMax, audacity. Based on the results of the questionnaire filled out by SLB teachers, especially SLB-C YPSLB Surakarta, it can be stated that the games made are very interesting so that they make children interested in playing them, games can be used to train children's motor skills and can be used by the teacher as a learning medium. This game is easy for mentally retarded children to play in the light category [10]. Educational Game Development on the Introduction of Animal Names in English as Learning Media for Elementary School Students Based on Macromedia Flash, as a learning model in the form of games to help attract students in learning. The aim of the researcher is to make it easier for students to memorize and write down the sequence of letters when forming a word in mentioning animal names, to make it easier for teachers and students to learn the material to develop animal education games to recognize animal names in English which are used for fourth grade students in learning activities at SD Negeri Somokaton. This learning game is based on Macromedia Flash with the theme "Recognition of Animal Names in English" [11]. Based on previous research, it can be concluded that there is a need for media that children like as learning media so that there is no saturation in the learning process, namely a visual media that combines audio and video in a short story.

METHOD

The main problem in community service activities with the topic of Preventing the Transmission of COVID-19 in Early Childhood Education is that children should

be aware of personal hygiene from an early age as a provision for future life, including preventing transmission of viruses and diseases. There are three stages in the Problem Resolution Approach above, namely choosing the right target group, education to increase the sensitivity of the target group to COVID-19 and evaluation and monitoring to see whether the educational media provided can be accepted and understood well by the target group.

1) Material Socialization and Distribution

Socialization and distribution of educational materials are the core activities of this community service, where participants are asked to watch short videos related to how to prevent COVID-19 transmission with the assistance of student guardians. This was done to simultaneously educate the guardians of students in maintaining the cleanliness of their children, especially during this COVID-19 period. Educational video materials were distributed to the guardians of students by sharing a YouTube channel link with three competencies in the introduction of Covid-19 and then given a response form via Google Documents by sharing a link. This was done because the current conditions made it impossible to gather together in the socialization process. The student guardian then sends back the completed response form (instrument), along with simple documentation

2) Monitoring And Evaluation

Monitoring and Evaluation is carried out in stages. Evaluation and monitoring activities need to be carried out so that the objectives of this research activity can be carried out properly and it is hoped that after this socialization, the dissemination of knowledge about Covid-19 which includes: 1) videos about washing hands, 2) videos about wearing masks, and 3) videos about taking care distance. This material is intended to prevent the transmission of the Covid-19 virus and can be continuously informed through this visual media

RESULTS AND DISCUSSION

This research produces an interesting and interactive one that can help parents to educate and teach their children. This game was built using Construct 2 as a game engine, where games built with Construct 2 can be published on various platforms, such as web, iOS, Android, Windows Phone, Windows Desktop.

This research requires main equipment and supporting equipment for designing, creating and implementing educational games. The equipment used is in the form of hardware and software as follows:

1) Hardware : Processor Intel ® Core ™ i3-2328M CPU @ 2.20GHz, Hardisk 500 GB, RAM 4 GB DDR3 Memory
2) Software: Construct 2, CorelDraw X6, Audacity 1.3.9 (Unicode)
3) Storyboard which is a series of visual sketches to describe the sequence or flow of the system to be built

An interesting and interactive edugame is the result of this research so that it can help parents to educate and teach their children. The application results of this game are as follows:

1) Title Page

This educational game starts with a title page and a menu page. The title page contains the name of the educational game, while the menu page contains 2 main menus, namely the play button to start the game and the exit button to exit the game

2) First level introduction page

When the play button is clicked on the menu page, the level 1 introduction page will appear. In this page the user will be given an introduction. In order to attract children's attention more, the character of a boy is introduced to it

3) First level game page

The first level page will appear when the play button on the previous page is clicked

4) First level reward page

The reward page will appear when the user successfully completes the game at the first level, which is when the score reaches 20. On this page the user will be congratulated by a boy character, and the user will be given a star to give a pleasant impression

5) Second level introduction page

In the second level introduction page the user will be given knowledge. This introduction is still carried out by the character of a boy

6) Second level game page

At this second level, the game is still almost the same as the first level

7) Second level reward page

After the user successfully completes the second level game, the user gets rewards such as the first level in the form of congratulations and an asterisk. What distinguishes it from the first level is how it looks, the first level is in the afternoon setting, while the second level is evening

8) Game over page

The game over page will appear when the user runs out of Health Points when playing games on level 1 and 2. Then the user will be asked a question to play again or not, if yam will return to the start page, otherwise the game will automatically exit

CONCLUSION

Based on the research that has been done, the conclusions that can be drawn include the educational game application using Construct 2 which can be used as a medium for playing while learning by the community, especially children. Operation of applications can use PCs, laptops and gadgets that use Android applications. Based on the blackbox test that has been done, this edugame can run well.

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