

Educational Games as Learning Process for Children

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Abstract. The purpose of this study is to introduce learning educational games that teach numbers, colors, animals, musical instruments, letters, shapes, fruits, and transportation. The method used in this study was the waterfall method. The results showed us that the children, in general, like to play. It was hoped that this educational game could increase children's enthusiasm for learning and improve the learning process. This was because the development of children and the development of technology were very fast, and Android system-based educational game was made to help the learning process of children bored in learning. Children's learning is no longer monotonous with this educational game, they can learn and play at the same time.

1. Introduction

Entrepreneurship is a person who has a hard-working and sacrifice nature. Technopreneurship (entrepreneurial technology) is a part of entrepreneurship that emphasizes technological factors, namely the ability of science and technology in its business processes [1]. Communication is a very basic thing in human life [2]. UNCTAD 2010 designed technology in its components, namely material, human, information, organization, and equipment. In other words, classifying technological components into hardware and software/brainware components [3]. Educational games become one type of media used to provide information and increase knowledge about its users through unique and interesting media [4].

In the previous research, it showed the result of the research was that children could directly use the game application, gain more knowledge, and change learning patterns so they are not bored [5]. In another previous research, it showed the purpose of it with this educational game was expected to help children learn and improve their creative mindset and add more advanced knowledge [6]. The purpose of another research was it positively influenced the creativity and activity of students in learning colors [7]. The purpose of previous research about game was it could be used as medium alternative of PAUD teacher in changing conventional teaching methods in simulation game to develop children's creativity, because educational games had elements of maturity, accuracy, reasoning power, and ethics [8]. Computerized educational games help students understand learning material in a fun way so that it can improve student understanding [9,10]. From those researches, it can be concluded that many studies have discussed educational games about how to adapt with the digital age and use technology in learning activity.

The purpose of this study is to help the way of learning with digital simulation games that help children's enthusiasm in learning and make them enjoy the learning process. The method used in this study was the waterfall method.

2. Method

The method used in this study was the waterfall method with the phases of needs (needs analysis) especially children's, an attractive appearance for children (design), and comprehensive choice of word for children (testing). In the requirements phase, the authors gathered material that was appropriate to the needs of making this educational game. Data collection was obtained from observations of activities carried out by children aged 5-10 years. This educational game was equipped with interesting characters for children with a variety of colors and sounds that are easily understood by children to answer educational game questions, while in testing phase children's understanding was tested by examining their responses.

3. Results and Discussion

Computerized educational games for children had the function to practice concentration and to explore children's abilities. Besides, it used to practice motor skills and stimulate the child's fine and rough motor skills. Computerized educational games for children were part of the social adaptation process. The process of adaptation was people who can adapt to the environment by using technology [11].

3.1. Initial Display

The main menu was the initial appearance of the educational game which had several menu choices according to the category of children's learning choices. In Figure 1, there were seven menus namely Numbers, Colors, Animals, Home, Letters, Shapes, and Musics (See Figure 1).

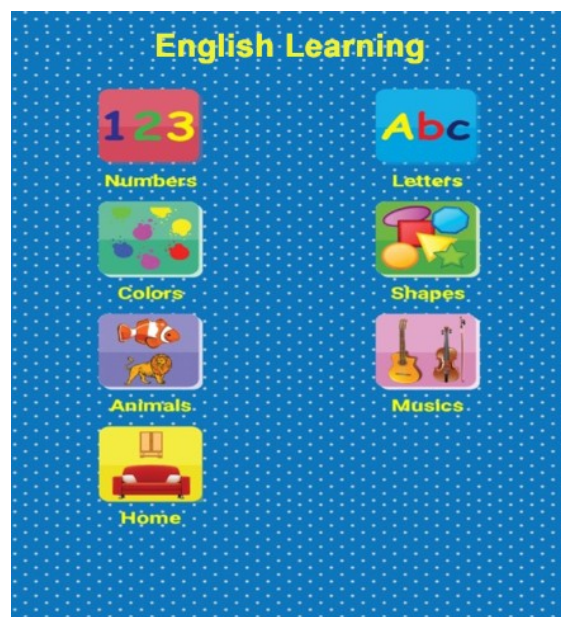


Figure 1. Initial Display

From the Figure 1 above, children only needed to click on one of the menus and it would directly go to the selected menu.

3.2. Display How to Play

Learn menu was equipped with audio. When the user clicked a button, an audio would play. For example, when a user clicked button number "One", an audio played "one" in the background. Test menu consisted with audio test for the users. Users needed to select the correct answer after the audio played (Figure 2).

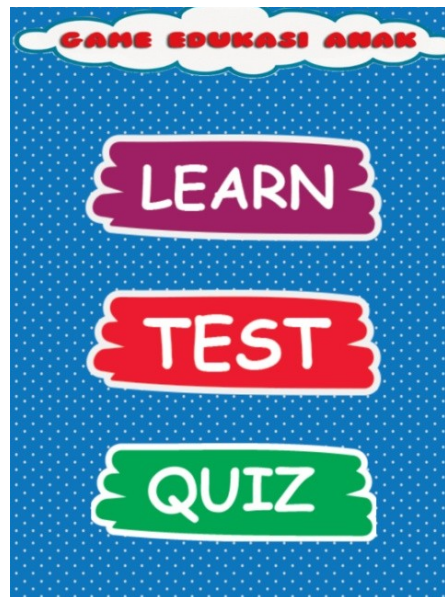


Figure 2. Display How to Play

Quiz menu was a test consisted of commands in audio. The users were given four choices and they needed to answer with the correct. If the users gave wrong answer, then the game would give them another chance to answer correctly.

3.3. Display of Game Numbers

In this game, the users knew several numbers from 1 to 20 through audio. The numbers were in colors so it would be more attractive (See Figure 3).

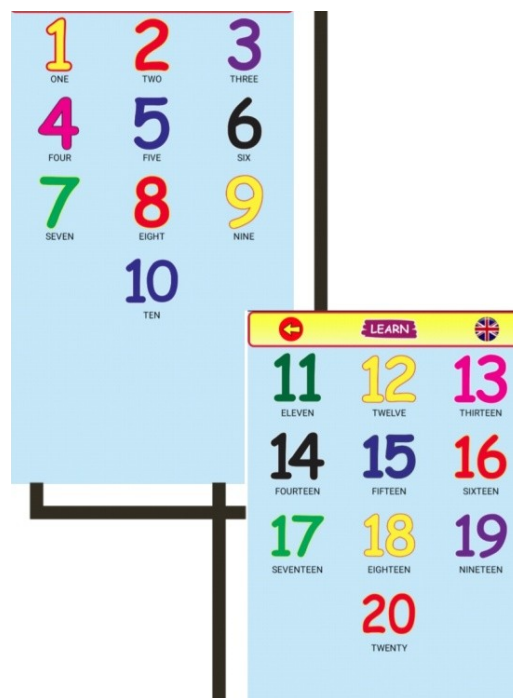


Figure 3. Display of Game Numbers

3.4. Display of Game Colors

Colors displayed in this menu were also have audio (See Figure 4).

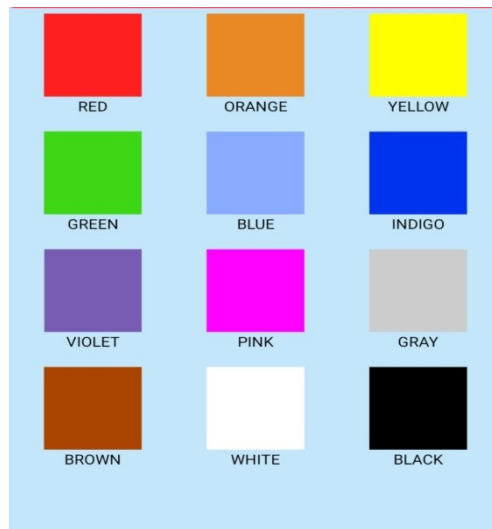


Figure 4. Display of Game Colors

3.5. Display Game Animals.

Each animal in this menu has their name written below them (See Figure 5).

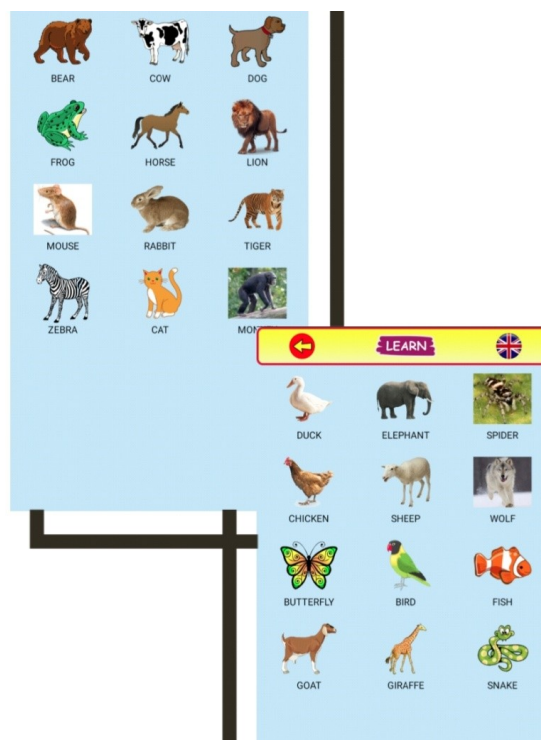


Figure 5. Display Game Animals

3.6. Display Game Home

This menu was about household items. These items had their name written below them. Pictures and text were provided to make the learning process easier (See Figure 6).

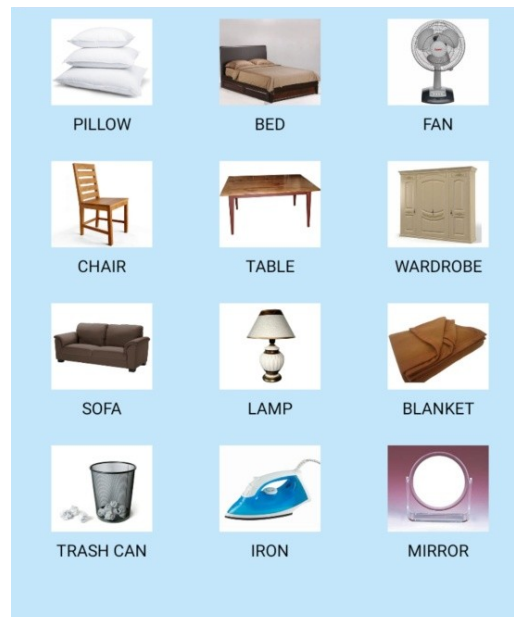


Figure 6. Display Game Home

3.7. Display Game Letters

To attract the user's attention, the alphabets came in colors (See Figure 7).

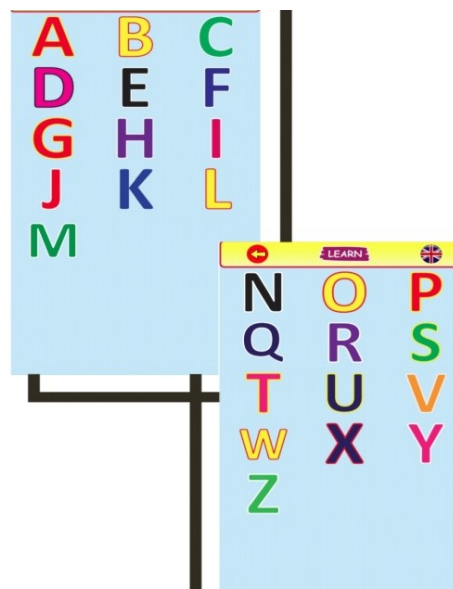


Figure 7. Display of Game Letters

3.8. Display Game Shapes

In order to make the learning process easier, the shapes were in colors and they had their names below them (See Figure 8).

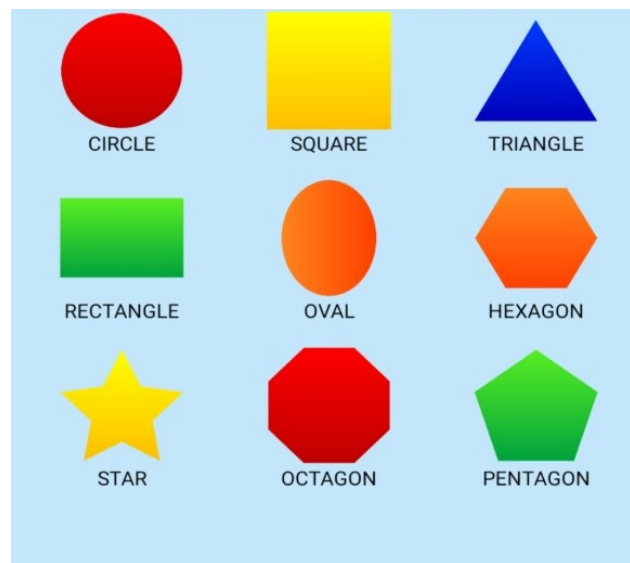


Figure 8. Display Game Shapes

3.9. Display Game Musics

Variety of musical instrument were shown here with the name of them (Figure 9).

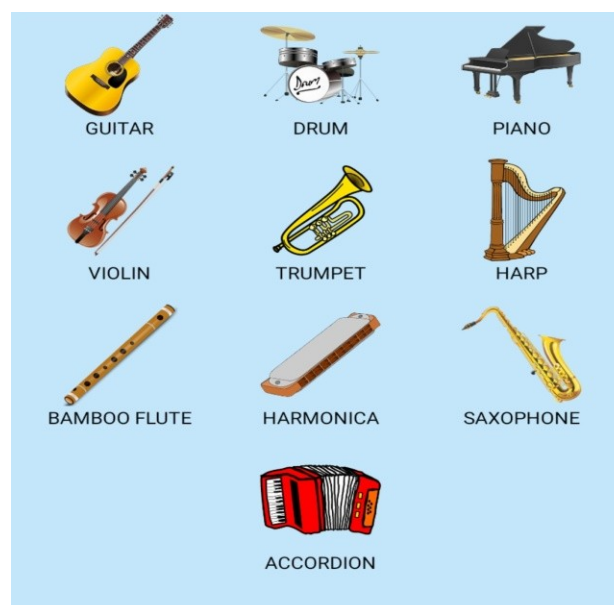


Figure 9. Display Game Music's

4. Conclusion

The conclusion that can be drawn from this educational game is that game not only has a negative impact, but it also has a positive impact on children. Educational game equipped with audio and images makes learning activity fun and enjoyable for children aged 6-10.

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