Interactive Learning Media Application for the Introduction of Human Needs in Children Aged

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Article Information:	ABSTRACT
	Early childhood education is a form of education that focuses on establishing the basis for significant physical growth and development, such as body growth and motor development. Children begin to develop the ability to think, learn, remember and understand basic concepts. This research aims to produce an animated application for the introduction of human needs in children for their congnitive development. In the design process using Flowchart diagram to create an overview of how the process in the interactive learning media application. Storyboard is used for an overview of the appearance and workings of interactive learning media applications. There are several choices of materials such as food, drink, clothing, health, hygiene and safety. All materials are equipped with sound images and attractive displays. Flowchart is used to display the workflow, from the start to the stage of selecting interactive learning media application materials. The application contains material that already covers the curriculum used by PAUD schools in general. Interactive learning media applications help early childhood in learning about human needs. **Keywords**: *Animation, Early Childhood, Human Needs, Multimedia*

INTRODUCTION

Early childhood refers to children between the ages of 0 to 6 years. During this period, children experience a very sensitive period of development, where their physical and psychological functions undergo maturation that allows them to respond to stimuli from the surrounding environment (Vial, 2019). As stated in Permendiknas No. 58 of 2009, early childhood education is a form of education that focuses on forming the basis for children's growth and development in five main aspects (He dkk., 2019). These

aspects include moral and religious development, physical development which includes fine and gross motor coordination, intelligence/cognition which involves thinking and creative power, socio-emotional which includes attitudes and emotions, and language and communication.

They are very sensitive to environmental influences and interactions with adults and peers (S. Wang dkk., 2019). Therefore, in this period, good stimulation and a supportive environment are very important for children's development. Early childhood also has a high learning ability and the ability to absorb information quickly. To attract the attention of early childhood and make them interested in learning, learning media needs to be adapted to the developmental characteristics and interests of children. One of the learning media suitable for early childhood is interactive multimedia, which can increase their interest in learning (Penconek dkk., 2021). Zoolfabet interactive multimedia learning media can support early childhood cognitive development. Multimedia learning media uses an approach that involves a variety of multimedia elements, such as images, sound, animation and interactivity (Caniëls dkk., 2019). By utilizing this technology, young children can be actively involved in their learning process (Peng dkk., 2020). The interactivity provided by learning media provides a more effective learning experience and supports better understanding.

The results of the beta test conducted on 18 kindergarten children from group B5 of TK Negeri 2 Yogyakarta show that interactive learning multimedia in the form of games has high usefulness and is very feasible to use in stimulating children's cognitive and language development (Jiang dkk., 2019). Interactive learning multimedia in the form of games provides significant benefits in developing thinking skills, creativity, and language understanding in kindergarten children.

The use of interactive learning video media of Javanese culture has a significant positive impact on learning outcomes with a feasibility level of 92.5%, with a good category. Javanese culture interactive learning media is effective in improving children's understanding and achievement (Salminen dkk., 2020). Interactive learning videos that promote Javanese culture have the potential to improve the language politeness of early childhood (Apriliani & dkk, 2021).

RESEARCH METHODOLOGY

The data collection methods used in this study were individual interviews and observation. Interviews were conducted by asking questions to a single respondent. This respondent was the principal of the PAUD (Hu dkk., 2019). The interview was formal and structured. From this interview, the author obtained information about the scope of PAUD and what materials are used for teaching and learning activities in PAUD. In addition to the interview results, researchers also obtained data in the form of softcopy provided directly by the principal.

Observation is a way to obtain information about an event that is visible or can be seen with the five senses (Van Doren dkk., 2019). In the observation technique,

researchers collect information about what is learned by early childhood by directly reviewing activities during the teaching and learning process at PAUD.

RESULT AND DISCUSSION

Flowchart

In the design process, researchers use Flowchart diagrams to make it easier to describe how the process in the animated application of the introduction of human needs in children (F. Wang dkk., 2019). Researchers use Storyboard to create an overview of the appearance and workings of the animated application for the introduction of human needs in children.

Flowchart diagram display to display the workflow from starting to the stage of selecting material for the animated application of the introduction of human needs in children of age as in Figure 1. the following.

Design

The main scene has a start button (Low dkk., 2019). If clicked, the button will direct us to the loading scene.

On the My Needs menu, there are several material choices such as food, drink, clothing, health, hygiene, security (Chen dkk., 2019). If you click on the desired material, the material will appear according to the selected menu. The home button serves to return to the main menu.

Figure 3. My Needs Menu Display Design

On the Food menu, there are images about types of food. If you click on the selection menu of each food material (Yang dkk., 2019), it will display the type of food from each material that we choose (Gao dkk., 2021). The home button serves to return to the main menu (Bai dkk., 2021). Back button to return to the My Needs menu display.
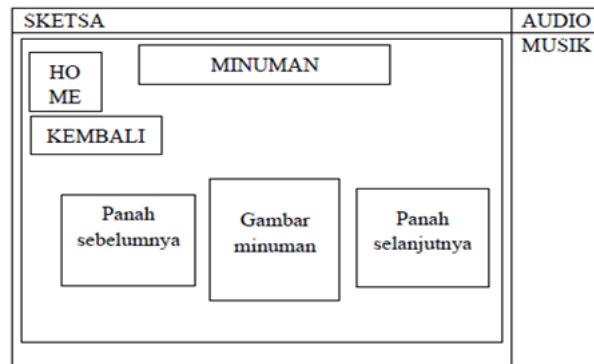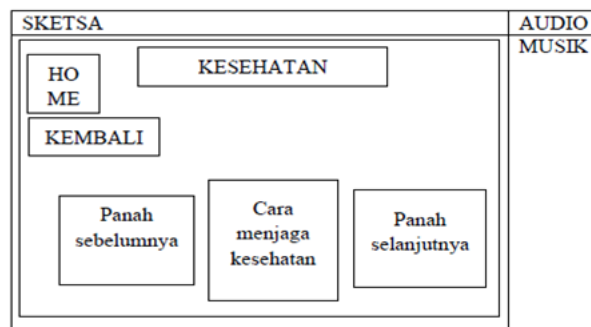
Figure 4. Food Menu Display
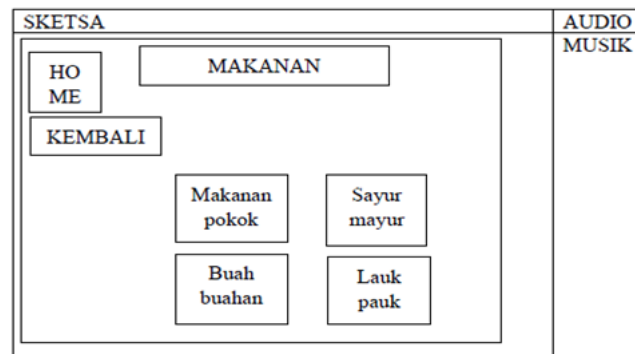
Design

On the Drink menu, there are images about types of drinks. If you click the next arrow, the image will display the next page, if you click the previous arrow it will return to the previous page (Hassan dkk., 2021). The home button serves to return to the main menu. Back button to return to the My Needs menu display.

Figure 5. Drink Menu Display Design

On the Clothing menu, there are images about types of clothing. If you click the next arrow, the image will display the next page, if you click the previous arrow it will return to the previous page (Zhang & Jin, 2020). The home button serves to return to the main menu. Back button to return to the My Needs menu display.

Figure 6. Clothing Menu Display Design

On the Hygiene menu, there are pictures on how to maintain personal hygiene. If you click the next arrow, the image will display the next page, if you click the previous

arrow it will return to the previous page (Wu dkk., 2020). The home button serves to return to the main menu. Back button to return to the My Needs menu display.

Figure 7. Hygiene Menu Display Design
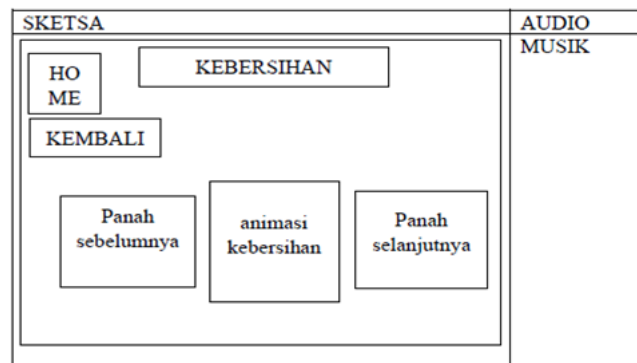
On the Security menu, it will display an animation of keeping the body safe. If you click the next arrow, the image will display the next page, if you click the previous arrow, it will return to the previous page (Arora dkk., 2019). The home button functions for the My Needs menu.

Figure 8. Desain Halaman Penginapan
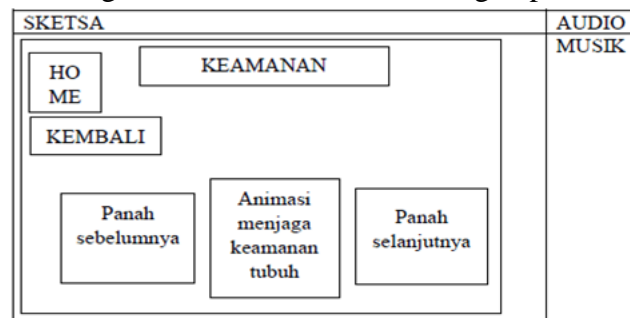
Implementation

Implementation of the flowchart and design using the Macromedia Flash 8 application. the following are the implementation results.

Figure 9. Loading Screen Display

Figure 10. My Needs Menu Display
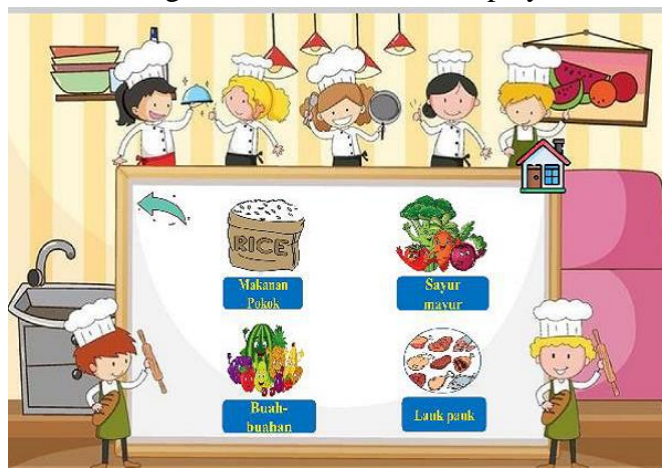

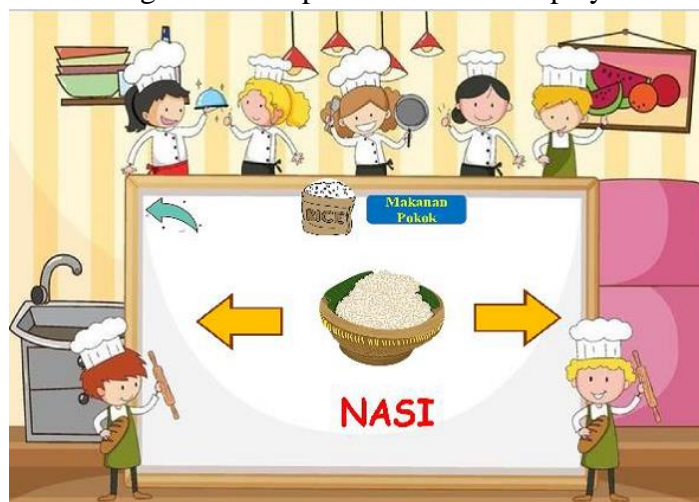Figure 11. Food Menu Display

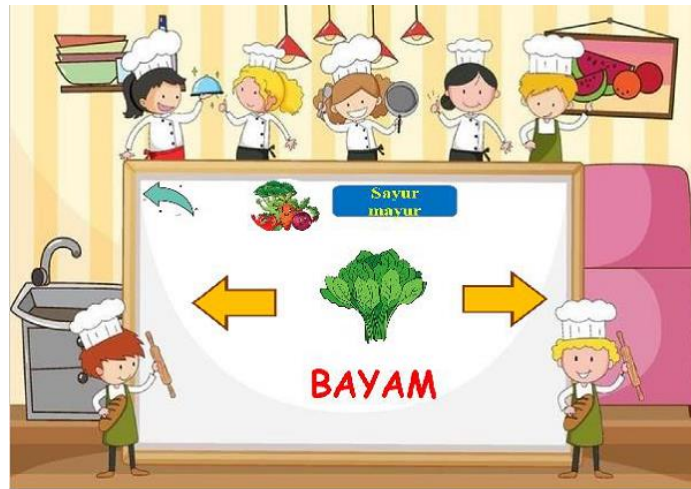Figure 12. Staple Food Menu Display

Figure 13. Vegetable Menu Display
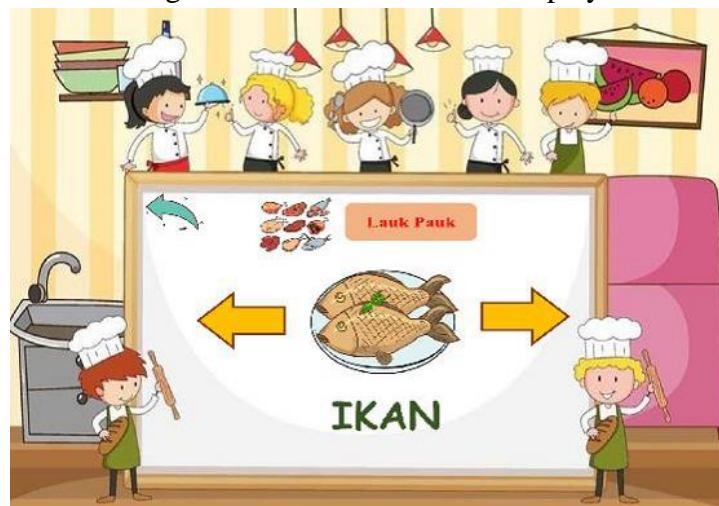

Figure 14. Side Dish Menu Display
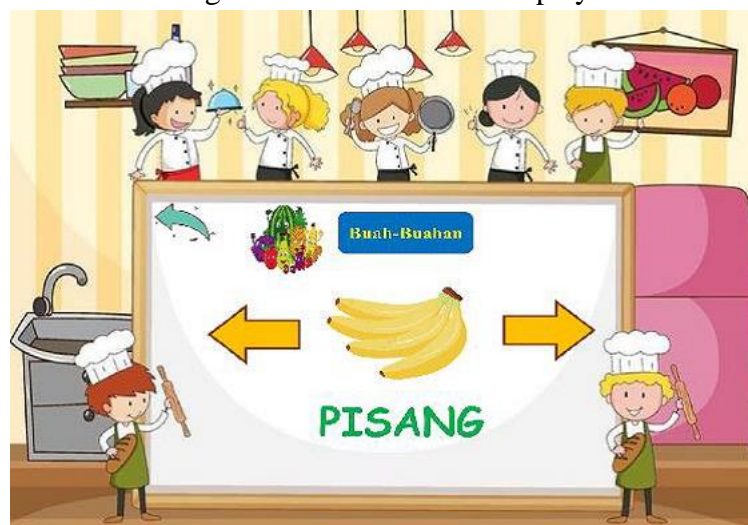

Figure 15. Fruits Menu Display

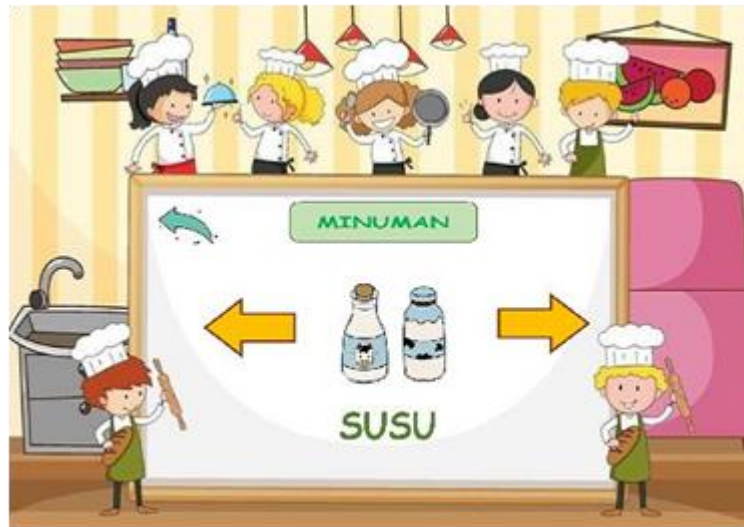Figure 16. Beverage Menu Display

Figure 17. Clothing Menu Display

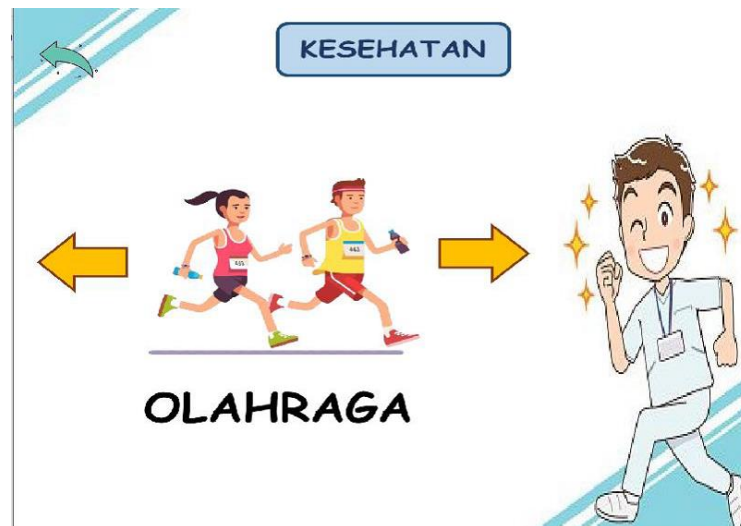Figure 18. Health Menu Display
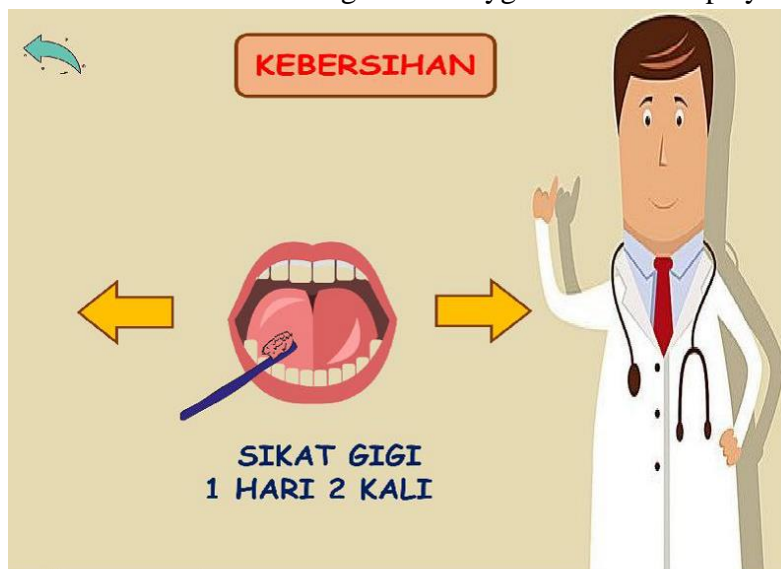
Figure 19. Hygiene Menu Display

Figure 20. Safety Materials

CONCLUSION

Based on the research that has been conducted, it can be concluded that:

1. Interactive Learning Media applications for the introduction of human needs in children at an age have been successfully designed using the Macromedia Flash 8 application.
2. Interactive Learning Media Application contains material that already covers the curriculum used by PAUD schools in general.
3. Interactive Learning Media Application contains staple foods, vegetables, fruits and side dishes.
4. Interactive Learning Media Applications are very early childhood in recognizing human needs.

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