


GAME BOARD TO IMPROVE CHILDREN'S DENTAL AND ORAL HEALTH KNOWLEDGE

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Info Article	Abstract
<p>Article History:</p> <p>Received: 26 August 2024 Revised: 1 Oct 2024 Accepted: 10 Oct 2024 Available Online: 16 Oct 2024</p> <hr/> <p>Keywords: <i>Board Games, Dental Health, Children 3-5 Years.</i></p> <hr/>  <p>This is an open access article under the CC-BY-SA license. Copyright © 2024 by Author. Published by Politeknik Kesehatan Kemenkes Jakarta I</p>	<p>Background: The five-year period in the stage of child development is the golden age, which is a golden period in the period of growth and development of children. During this period, everything that is poured out and absorbed in the child will become the basis and sharp memory in the child, including the maintenance of dental health. The growth of 3 to 5-year-olds has some skills such as color naming. Children do tend to prefer to play. Children's activities while playing while learning can support growth and development and absorb learning optimally. Games that can be played while learning are putting together simple puzzles, drawing and coloring, composing and stacking block games, playing sand, clay or toy candles, singing, role-playing, playing music and board games. Objectives: To develop dental and oral health game boards for kindergarten children aged 3-5 years in kindergartens in the Kersamenak sub-district, Kawalu Tasikamalaya District. Methods: The research method is carried out by research and development (R&D) methods and <i>Quasi experiments</i> with <i>non-equivalent pre and post test designs</i>. The research was conducted by conducting FGD with kindergarten teachers in the Kersamenak sub-district area, Kawalu District, Tasikmalaya City using a total sampling technique of 30 teachers. Results: The description of the conclusion to the respondents' answers is the development of dental and oral health game boards for kindergarten children aged 3-5 years in kindergartens in the Kersamenak sub-district, Kawalu Tasikamalaya District. Conclusion: Production of dental and oral health game boards and game board manuals.</p>
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Introduction

According to Riskesdas data from the Ministry of Health in 2013, the prevalence of dental and oral health problems was 25.9%, with the prevalence of active caries at 53.7%. Maintaining dental and oral health in children under the age of five is very important because it affects the future state of teeth and mouth as well as their growth and development (Kemenkes, 2013). Riskesdas 2018 states that 93 percent of early childhood children experience cavities (Kemenkes, 2018). Tooth decay that occurs in children can be one of the causes of impaired tooth growth in children at a later age (Gayatri & Mardianto, 2016).

The cause of cavities is triggered by various things, one of which is the lack of awareness of parents to teach their children to brush their teeth. Brushing education should start early because it will become a habit until adulthood (Rossa & Nodia, 2018). Taking care of children's dental health from an early age is the best way to keep the mouth and teeth healthy (Oktarina et al., 2017). The preschool phase is 3-5 years old (Wong, 2009). The character of children aged 3-5 years is happy to be the center of attention (Dresyamaya, 2023).

Playing while learning can hone children's cognitive abilities. Games that can be played while learning include board games (Education Advice, 2022). A board game is a type of game that is played on a board that can describe any subject (Wikipedia, 2023).

Method

This research method uses Research and Development (R&D). R&D is a research method used to produce a specific product and test the effectiveness of the product (Arikunto, 2010). This research aims to make game board products to improve children's knowledge of dental and oral health. This is in line with research by Nurwanti, Santoso, & Fatmasari (2019), shows that producing innovative new products can support dental and oral health education.

A. Population and Sample

Population: Kindergarten teachers in the Kersamenak sub-district area which consists of 3 schools (Kartini Kindergarten, Dewi Sartika Kindergarten and Sejahera 4 Kindergarten) with a total of 30 respondents.

B. Research Implementation:

1. Potential problems
2. Research licensing
3. Data collection

Data collection includes needs analysis by identifying and analyzing problems experienced in the implementation of dental health education (Nurwanti, 2019). The efforts made in the focus discussion group in this study are observation methods and interviews with respondents, the results of the observation data are used as a reference in making dental health media products that are suitable for development.

The data from the focus discussion group was used to create innovative development a game board design tailored to media needs for children aged 3-5 years. Research by Purnama et al (2024), shows that innovative development is an effort to improve the dental health status of preschool children .

Result

Table 1. Description of Conclusion to Respondent's Answer Number 1

Question	Answer
Based on your experience, what types of games attract the most attention of 3-5 year olds?	The type of game that most attracts the attention of children aged 3-5 years is such as a game-based sensory box so that children can imagine to compose the goals of the game.

Table 2. Description of Conclusion to Respondent's Answer Number 2

Question	Answer
What do you think about the effectiveness of board games as a learning medium for children of this age?	Game boards as a learning medium for children aged 3-5 years can be said to be effective, because they attract children's attention in a fun way so that they can train children's motor skills.

Table 3. Description of Conclusion to Respondent's Answer Number 3

Question	Answer
What are the main challenges in teaching dental and oral health concepts to children aged 3-5 years?	The main challenge in teaching the concept of dental and oral health to children aged 3-5 years is the age factor that is still early and does not have much insight and needs companions in maintaining dental and oral health.

Table 4. Description of Conclusion to Respondent's Answer Number 4

Question	Answer
What visual elements do you think should be present in a game board to attract children's interest?	The visual elements that must be present in the game board are contrasting images and colors so that children are more interested in taking part in the use of the game board.

Table 5. Description of Conclusion to Respondent's Answer Number 5

Question	Answer
What is the best way to simplify dental and oral health information so that it is easy for children aged 3-5 years to understand?	Dental and oral health information can be easily understood by children aged 3-5 years old when using attractive media accompanied by good image examples.

Table 6. Description of Conclusion to Respondent's Answer Number 6

Question	Answer
Have you ever used a game board to play? If so, what are the advantages and disadvantages?	Advantages of board games: increase the child's concentration and attention so that the child has the ability to socialize. Disadvantages of game boards: children will feel bored when used for a long time.

Table 7. Description of Conclusion to Respondent's Answer Number 7

Question	Answer
What is the ideal duration for a game session to remain effective for early childhood?	The ideal duration of a game session to remain effective for early childhood is around 15-30 minutes.

Table 8. Description of Conclusion to Respondent's Answer Number 8

Question	Answer
What are some motor skills to consider when designing game components for 3-5 year olds?	Motor skills involve the five senses for the ability to coordinate hand movements and vision.

Table 9. Description of Conclusion to Respondent's Answer Number 9

Question	Answer
Do you think there needs to be an adult role in this game? If so, how should the role be?	Adults act as facilitators to provide direction, provide rules and supervise the course of the game.

Table 10. Description of Conclusion to Respondent's Answer Number 10

Question	Answer
What are some themes or characters that you think will appeal to children in the context of dental and oral health?	The theme of maintaining dental and oral health uses cartoon characters so that it attracts children's interest.

Table 11. Description of Conclusion to Respondent's Answer Number 11

Question	Answer
Are there any special safety aspects to consider in the design of a game board for children of this age?	Special safety aspects that need to be considered such as the boards used are not sharp, made of safe, harmless and child-friendly materials.

Table 12. Description of Conclusion to Respondent's Answer Number 12

Question	Answer
How to measure children's understanding of tooth and mouth stiffness through this game?	Board game games are made using indicators of understanding dental and oral health.

Table 13. Description of Conclusion to Respondent's Answer Number 13

Question	Answer
Do you think there should be interactive elements such as question cards or challenges in the game?	Interactive elements are in the game so that children are more excited, focused and understand quickly.

Table 14. Description of Conclusion to Respondent's Answer Number 14

Question	Answer
What do you think is the most important information to include in a dental and oral health game board game?	Information on how healthy teeth are and cavities, healthy foods for teeth, how to take care of good and correct teeth.

Table 15. Description of Conclusion to Respondent's Answer Number 15

Question	Answer
Do you think there needs to be any special guidance for teachers or facilitators in using these game boards?	Facilitators need specific guidance to understand the management of the use of game boards.

Discussion

Health promotion media is a fun and useful learning media, bringing joy in learning and stimulating the brain, increasing knowledge and confidence (Khoirani et al., 2013). Board media can

be used to facilitate the delivery of messages and help the effectiveness of the learning process (Sulistiani et al., 2022).

The media is made in an attractive way so that children can learn when using games (Putri et al., 2020). Game boards as a learning medium for children aged 3-5 years can be said to be effective, because they attract children's attention in a fun way so that they can train children's motor skills. Advantages of board games: increase the child's concentration and attention so that the child has the ability to socialize.

The Art Therapy approach using cergam makes children more interested (Ermawati, 2023). Pictorial messages are considered more effective compared to messages that only contain text (Ratih & Susana, 2018). Dental and oral health information can be easily understood by children aged 3-5 years if they use interesting media accompanied by good image examples. The absorption and memory of providing material through game media is quite large, namely 96% and 90% (Dawner et al., 2018).

Board games often include additional elements such as cards (Wibawanto, 2021). Interactive elements are present in the game so that children are more excited, focused and quick to understand. Research by Marludia et al., (2023), shows that interactive media is carried out as an effort to maintain dental and oral health. Games using game boards are educational games, where tools or parts of the game can be placed, moved, or moved to parts of the place that have been marked or divided according to the rules (Dawner et al., 2018).

The role of parents as motivators is to provide motivation to children in maintaining dental and oral health (Fadjeri, Purnama, Nurwanti, et al., 2022). Children need to be equipped with knowledge in maintaining dental and oral health independently, but children who are not able to do it on their own so that parents are the closest people who will provide assistance and guidance (Widiyastuti et al., 2022).

Adults act as facilitators to provide direction, provide rules and supervise the course of the game. Facilitators need specific guidance to understand the management of the use of game boards. Research by Himmamie et al., (2019), shows that board educational game products are suitable for use as a medium for dental and oral health education.

Conclusions

Production of dental and oral health game boards and game board use guidebooks for kindergarten children aged 3-5 years in kindergartens

in the Kersamenak sub-district area, Kawalu Tasikamalaya.

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