Development of Graphic Design-Based Fun Cooking Standard Operating Procedures for Early Childhood Aged 5-6 Years

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Abstract

This research aims to develop learning media in the form of "Standard Operating Procedures (SOP) for fun cooking" which can be applied to children aged 5-6 years during fun cooking activities. This research uses research and development methods (Research and Development, R&D) by applying the Borg and Gall model, focused on six main stages. The data collection technique uses a questionnaire which is evaluated by media experts, language experts and early childhood experts. Standard Operational Procedures for fun cooking have been successfully developed as guidelines for fun cooking activities for children aged 5-6 years. Product evaluation is carried out by validators consisting of media, language and early childhood experts. Assessment aspects include writing, image color, appearance, suitability of language, and presentation. The assessment results show an average feasibility percentage reaching 91% in the "very feasible" category from media experts, and 87% in the "very feasible" category from language experts and early childhood experts, Standard Operating Procedures (SOP) for Fun Cooking in "very decent" score with a percentage of 85%. Product validation identified that the Fun Cooking Standard Operating Procedure (SOP) is very suitable for use as a guide in fun cooking activities for early childhood. Then the next data after carrying out expert validation, product revision, namely small-scale product trials. The research results from small-scale product trials obtained a feasibility percentage of 93% and the "Very Feasible" category. This research makes an important contribution in developing media that suits the needs and characteristics of early childhood, as well as providing strong recommendations for implementing Standard Operating Procedures (SOP) in Fun Cooking activities for children aged 5-6 years.

Keywords: Development of learning media, fun cooking, early childhood

Introduction

Education begins at the preschool level, targeting early childhood between the ages of 0 and 6, which represents a crucial period for fostering development. During this stage, children experience rapid physical, cognitive, and emotional growth. Education, defined as the process through which individuals acquire knowledge and skills to positively transform behavior, requires effort and structured learning processes to achieve its goals. Early childhood education aims to support children's holistic development across various aspects, including physical, cognitive, social, emotional, and language abilities (Sutrisno, 2021).

The Indonesian National Education System Law (2003, Article 1, Paragraph 14) defines early childhood education as a developmental program for children from birth to six years old. This program involves educational stimulation to promote physical and mental growth, equipping children with the readiness to advance to formal education. Supporting this perspective, Deuteronomy 6:6-7 emphasizes the importance of repeated teaching, urging educators to continually impart lessons in ways suitable for young learners. Repetition in learning, when conducted in an engaging and varied manner, helps sustain children's interest and ensures the effectiveness of early childhood education (Sinaga, Sitorus, Situngkir, & Agustina, 2023).

To achieve optimal outcomes, educators must employ creativity, introducing novel methods and diverse strategies to maintain children's engagement and enthusiasm (Umairi, 2023). One innovative approach is "fun cooking," which

integrates enjoyable activities with practical learning. This activity not only teaches responsibility but also enhances developmental aspects, such as fine motor skills, problem-solving, and teamwork. According to Schuett and Polonsky, cooking can serve as both an entertaining and educational experience, offering hands-on opportunities for children to prepare meals under adult supervision. Fun cooking transforms the process of meal preparation into an enjoyable learning journey, enabling children to explore the transition from raw ingredients to finished dishes (Farantika, 2021).

Implementing fun cooking activities requires adherence to Standard Operating Procedures (SOPs) to ensure safety and hygiene. SOPs detail systematic workflows, including precautions when using potentially hazardous tools like knives or stoves, as well as maintaining proper cleanliness practices. Teachers must prioritize safety and provide clear guidance, fostering an environment where children can safely and effectively participate.

The researcher chose this study topic to explore the impact of SOP-compliant fun cooking activities implemented at TK Pembina HKBP Kindergarten. This approach combines play and learning, allowing children to directly engage in the cooking process under teacher or parental guidance. Such activities not only provide enjoyment akin to eating prepared food but also immerse children in the rewarding experience of creating meals, fostering a deeper appreciation for the process.

Methods

This study was conducted at TK Pembina HKBP Tarutung using the Research and Development (R&D) methodology. According to Sugiyono, R&D is a research approach aimed at designing a specific product and evaluating its performance. To develop the desired product, a needs analysis is conducted, followed by testing the product's effectiveness in broader societal settings.

The Borg and Gall model, as outlined in Sugiyono, comprises ten stages: (1) identifying potential and problems, (2) collecting information, (3) designing the product, (4) validating the design, (5) revising the design, (6) product testing, (7) revising the product, (8) user trials, (9) further product revisions, and (10) mass production. R&D involves either innovating new products or improving existing ones based on reliable evidence.

In developing the Standard Operating Procedure (SOP) for Fun Cooking, the research initially required ten stages to reach the final product. However, due to time and resource constraints, the researcher limited the process to six steps. These six stages were deemed sufficient to validate and assess the feasibility of the developed media, effectively addressing the study's logistical limitations.

The data collection tools employed in this research included:

1. Questionnaires: A series of structured written questions used to gather respondents' personal reports or knowledge related to the study.

2. Observations: Observation sheets used to collect data based on the researcher's observations at TK Pembina HKBP Tarutung.

3. Documentation: The collection of written records or evidence, such as texts, images, or artifacts, that support the research findings.

For data analysis, a Likert scale was employed. Sanusi describes the Likert scale as a measurement technique that quantifies respondents' attitudes based on their responses to indicators of a specific concept or variable. By utilizing a Likert scale table, the researcher could determine whether the developed product was suitable as a guideline. Average respondent percentages were calculated using statistical methods adapted from statistic's references.

Result and Discussion

Potential and Issues

The potential of this development research lies in creating a graphic design-based Standard Operating Procedure (SOP) for Fun Cooking activities, a practice that has grown popular in early childhood education for its engaging and interactive qualities. The implementation of an SOP tailored specifically to Fun Cooking addresses challenges such as the lack of structured guidelines and safety concerns during the activity. Fun Cooking activities, while beneficial for developing motor, cognitive, and social skills, often face issues like inconsistent execution, safety risks, and lack of alignment with pedagogical goals. The structured SOP proposed in this study has the potential to standardize processes, ensuring both safety and educational value (Asyhari, 2016). By embedding engaging visuals and clear instructions, the SOP aims to make Fun Cooking more accessible and enjoyable for both educators and students, ultimately enhancing learning outcomes.

Information Gathering

Following the identification of the aforementioned potentials and issues, the researcher conducted a comprehensive data collection process. This included online research to explore existing guidelines and best practices for creating educational SOPs. Consultations with a thesis advisor provided theoretical insights and validation of research methods, while discussions with kindergarten teachers offered practical perspectives on the challenges encountered during Fun Cooking sessions. Teachers contributed valuable feedback on how SOPs could be tailored to address the developmental needs and interests of children aged 5–6. This collaborative approach ensured that the resulting SOP design would be both theoretically sound and practically applicable. The researcher also examined related visual communication principles, enabling the integration of engaging graphic elements to enhance clarity and appeal.

Product Design

The design phase began with drafting a preliminary version of the SOP using Canva, a versatile design software known for its user-friendly interface and professional output. This tool enabled the incorporation of vibrant colors, child-friendly

icons, and step-by-step instructions tailored for young learners (Setiawan, 2022). The SOP included sections on preparation, safety protocols, and activity steps, complemented by visuals that simplify complex instructions (Malik, 2018). The design prioritized accessibility, ensuring that teachers and students could easily follow the guidelines. The draft also incorporated space for educators to adapt the SOP to their specific classroom needs, promoting flexibility while maintaining the core structure (Putu, 2017).

Design Validation

The initial SOP design underwent rigorous evaluation by three groups of experts: media specialists, language experts, and early childhood education professionals (Syahputra, 2020). Each group assessed the SOP based on criteria relevant to their expertise:

- Media Validation: Media experts focused on the visual appeal, usability, and coherence of the SOP design. Ratings indicated high satisfaction, with text clarity receiving 91%, color scheme 87%, and layout 95%. The average score of 3.7 (91% suitability) placed the SOP in the "very feasible" category.
- Language Validation: Language experts evaluated the SOP for linguistic accuracy, clarity, and alignment with pedagogical objectives. Ratings included 90% for language appropriateness and 85% for presentation, resulting in an average score of 3.5 (87% suitability), also categorized as "very feasible."
- Early Childhood Validation: Professionals in early childhood education assessed the SOP's relevance to developmental needs, evaluating factors like content delivery (84%) and linguistic alignment (87%). The average score was 3.4 (85% suitability), confirming its appropriateness for the target audience.

Revised Design

Feedback from the validation phase was instrumental in refining the SOP design. Suggestions from media experts led to adjustments in color contrast and font choices, enhancing readability. Language experts recommended simplifying certain phrases to align with the linguistic comprehension of young learners. Early childhood specialists advised including more engaging visuals and interactive elements to maintain children's interest. These revisions improved the SOP's clarity, functionality, and appeal, ensuring that it met the needs of both educators and students.

Product Testing

A small-scale trial was conducted with nine kindergarten students, representing a diverse range of abilities. The SOP was implemented during a Fun Cooking activity, where teachers followed its guidelines to ensure consistency and safety. Observations revealed that the structured approach significantly reduced safety risks and improved the overall flow of the activity. Teachers provided feedback through questionnaires, highlighting both strengths and areas for further improvement. Key metrics included social sensitivity (75%), social insight (100%), and social communication (100%), with an overall suitability rating of 94% (average score: 4.6). These results demonstrated the SOP's effectiveness in fostering social interaction and engagement among children.

Initial observations at TK Pembina HKBP Tarutung identified the absence of a structured SOP for Fun Cooking as a key gap in practice. This research aimed to address that gap by developing a graphic design-based SOP tailored to the needs of young learners and educators. The development process followed a structured framework, beginning with potential identification and data collection, progressing through design and validation, and culminating in small-scale testing. Across all phases, the SOP consistently received high ratings, affirming its feasibility and readiness for broader implementation.

The findings underscore the importance of standardizing Fun Cooking activities through structured guidelines. By addressing both safety and pedagogical objectives, the SOP not only enhances the educational value of Fun Cooking but also promotes a safer and more engaging learning environment. Its high suitability ratings from experts and positive feedback from teachers validate the approach, offering a replicable model for similar activities in early childhood education (Sitorus, 2023). Future research could explore scaling up the SOP's implementation and evaluating its long-term impact on learning outcomes. The success of this study highlights the potential of integrating graphic design and structured processes into educational practices, paving the way for innovative approaches in early childhood education.

This study concludes that the graphic design-based SOP for Fun Cooking is a highly suitable and effective educational tool, validated by expert feedback and small-scale testing. The product addresses significant challenges in Fun Cooking activities, supporting structured, safe, and engaging practices for young learners.

Conclusion

This research highlights the effectiveness of the Standard Operating Procedure (SOP) for Fun Cooking when implemented in cooking activities for children aged 5-6 years. The SOP serves as a practical guide that enhances the educational and developmental value of such activities, promoting a safe, engaging, and structured approach to cooking for young learners. By addressing physical, cognitive, social, emotional, and linguistic aspects of development, the SOP proves to be a versatile tool that supports holistic growth in early childhood education.

The findings suggest that the structured format of the Fun Cooking SOP not only simplifies the execution of cooking activities but also ensures alignment with pedagogical objectives, particularly in fostering skills and interactions crucial for this age group. Teachers and educators who adopt this SOP benefit from a clear framework that minimizes risks

while maximizing learning opportunities, making the activity both enjoyable and educationally significant.

Future efforts should focus on further refinement and technological enhancement of the SOP to maintain its relevance in evolving educational contexts. Incorporating digital tools or interactive media could increase its accessibility and appeal, aligning it with contemporary teaching practices. Additionally, expanding its implementation in broader educational settings could provide further validation and allow for diverse adaptations tailored to specific needs.

For early childhood educators, this SOP represents a valuable resource for integrating hands-on activities like Fun Cooking into their curriculum. By following the structured guidance provided, educators can ensure that cooking activities are conducted in a manner that is safe, developmentally appropriate, and enjoyable for children. This contributes not only to the children's immediate engagement but also to their long-term appreciation of collaborative and skill-building experiences.

In conclusion, the SOP for Fun Cooking offers a significant contribution to early childhood education by bridging the gap between practical, interactive learning activities and educational outcomes. Its ongoing development and adaptation promise to enhance its impact, making it a cornerstone for fostering safe, enjoyable, and developmentally enriching cooking experiences for young learners.

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