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Illustrated Storybooks in Mitigating Early Childhood Device Usage

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ABSTRACT

The advancement of the digital age is characterized by technological progress that impacts individuals of all age groups, including early childhood. While technology can offer significant benefits, its inappropriate use among young children can pose a threat to their development. The lack of awareness or understanding among parents regarding the dangers of early-age gadget addiction can have serious consequences if not addressed promptly. The limited availability of media resources that educate children about the responsible use of technology has prompted researchers to develop an illustrated storybook as a means to reduce gadget usage among young children. The research employs the ADDIE method, encompassing the stages of Analysis, Design, Development, Implementation, and Evaluation. The developed medium is an illustrated storybook titled "Arya and Mom's Smartphone." Validation results by Media Experts, Early Childhood Education Experts, and Language Experts indicate scores of 82%, 94%, and 88%, respectively, categorizing it as "Very Good." Parents' evaluations as users of the illustrated storybook show a score of 83%, also categorized as "Very Good." In conclusion, the illustrated storybook "Arya and Mom's Smartphone" effectively reduces gadget usage among young children in a home setting.

Keywords: Illustrated Storybook, Gadget, Early Childhood Education.

INTRODUCTION

Early childhood represents a crucial phase in a child's development. During this period, children experience rapid brain growth, enabling them to absorb knowledge at an accelerated rate (Uce, 2017). Children acquire knowledge through their sensory experiences, encompassing what they see, hear, touch, taste, and feel in their surrounding environment. The evolving technological landscape of our time has influenced every individual, including those in early childhood. The use of electronic gadgets offers both advantages and disadvantages for young users. Gadgets facilitate various activities, such as messaging, communication, educational video viewing, task completion, and efficient work execution. However, continuous and unsupervised gadget usage, especially among

young children, can have a significantly negative impact on their daily behavior (Wulandari et al., 2021).

For instance, children may develop a preference for playing with gadgets over interacting with their peers. Excessive gadget use can lead to reduced awareness of their physical surroundings and potential vision problems due to prolonged screen exposure without adequate rest. Parents sometimes resort to gadgets as a means to keep their children calm and engaged in activities without disruptions or concerns about outdoor play, getting dirty, or becoming fussy (Jayadi et al., 2021).

In Indonesia, gadgets have become ubiquitous among individuals of all age groups, particularly in early childhood. Research findings indicate that 42.1% of preschool children are exposed to technology and exhibit relatively high gadget usage (Rowan, 2013). While many parents consider gadgets as safe playmates for their children, the role of parents in supervising and educating their children regarding gadget use remains suboptimal. A lack of awareness or understanding among parents regarding the dangers of gadget addiction in early childhood can have serious consequences if left unaddressed. Some argue that children addicted to gadgets face difficulties in interacting with others. Surveys reveal that 80% of children in Jakarta use gadgets for play, with 23% of parents of children aged 0-5 admitting that their children access the internet, and 82% of parents reporting that their children access the internet at least once a week (Miranti & Putri, 2021).

A preliminary study conducted by the researcher at an Early Childhood Education Institution in East Jakarta, involving interviews with teachers and parents, supports the aforementioned observations. The majority of children at the institution have a habit of using smartphones to play games and watch videos on apps like YouTube. Teachers note that many parents face challenges when trying to limit their children's gadget use. Parents often exhibit inconsistency or weakness in managing gadget usage at home. They hope that teachers can help educate their children about responsible gadget use at home. The interviews with parents also reveal that children greatly enjoy using gadgets, leading them to lose interest in other forms of play and interactions with peers. Parents encounter difficulties when trying to limit or stop their children from using gadgets, which can result in negative emotional outbursts, including crying, sulking, or even tantrums. Verbal warnings and threats from parents often prove ineffective in curbing these behaviors. In some cases, parents find it difficult to make their children cry and, as a result, relent and allow their children to resume gadget use.

Both teachers and parents are in search of an educational tool that can help children understand the importance of reducing excessive gadget use. Given these concerns, the researcher aims to contribute a solution by developing an educational tool that can assist parents and teachers in conveying this message to young children. Educational materials for early childhood education cover a wide range of resources

created or designed by educators, provided they contain educational content suitable for children's needs (Dewi, 2017).

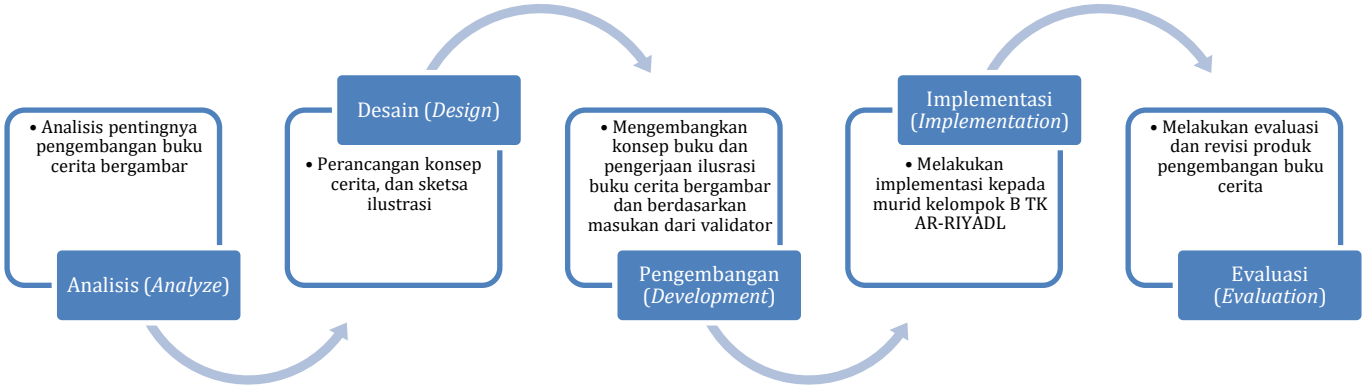
METHOD

This research employs the Research & Development (R&D) method, a commonly used research technique to discover or develop models and enhance existing models in order to improve their quality. In this study, R&D is applied to achieve the desired concept development goals without altering the original intent or context (Saputro, 2017). The products resulting from R&D are expected to bring about increased productivity by generating prospective educators who meet the educational world's requirements (Fikri, 2012).

The development model used is the ADDIE model (Analyze, Design, Development, Implementation, Evaluation). This model is chosen due to its adaptability and relevance in various situations, as it offers flexibility in adjustments and incorporates regular evaluation and revision phases at each step (Safitri & Ridwan Aziz, 2022). The ADDIE development model applies a systemic approach with the aim of breaking down the development process into logically sequenced stages. The output from each stage becomes input for the next stage. This systemic approach enables researchers to plan and develop systematically (Cahyadi, 2019). The ADDIE development model is also designed to focus on the system (Hidayat & Nizar, 2021). This method can be used to analyze and evaluate the performance of the resulting product. In the field of education, it is expected that products created through research and development (R&D) can enhance educational productivity through the production of high-quality educator graduates who align with educational standards as they evolve with the times (Fikri, 2012).

Figure 1 below provides a brief description of the ADDIE model approach that the researcher used in the media development design.

Figure 1. Development Phases of Product Adaptation from the ADDIE Model



In the analysis phase, various aspects are considered, including the background and reasons for the need for product development. This phase involves analyzing the feasibility of the product to be developed and its requirements.

The design phase in this model pertains to the process of conceptualizing the concept and content of the product. Guidelines for implementation in this phase should be clearly and meticulously documented. The design at this stage remains conceptual and serves as the basis for the subsequent model development phase.

In the product development phase, the design will be realized into a product ready for use in the following phase. It is important to create performance measurement instruments for the realized product to serve as a benchmark for evaluating its suitability and usefulness according to the initial objectives of product planning. Data collected in the previous stage is analyzed using the Likert scale to assess whether the development of picture books aimed at reducing the use of electronic devices by young children is considered feasible and to measure changes in children's behavior regarding device usage. Likert Scale calculations are based on the evaluation of validators on the development of children's book media for reducing the use of electronic devices by young children. The Likert Scale assessment consists of five score values: 1, 2, 3, 4, and 5. The percentage ranges for each category are described as follows: 0-20% for very poor, 20-40% for poor, 40-60% for fair, 60-80% for good, and 80-100% for excellent.

The evaluation phase is the final stage of this research model. In this phase, the product will be revised based on feedback from users and the results of the product performance measurement instrument. Product revisions are made to align with the

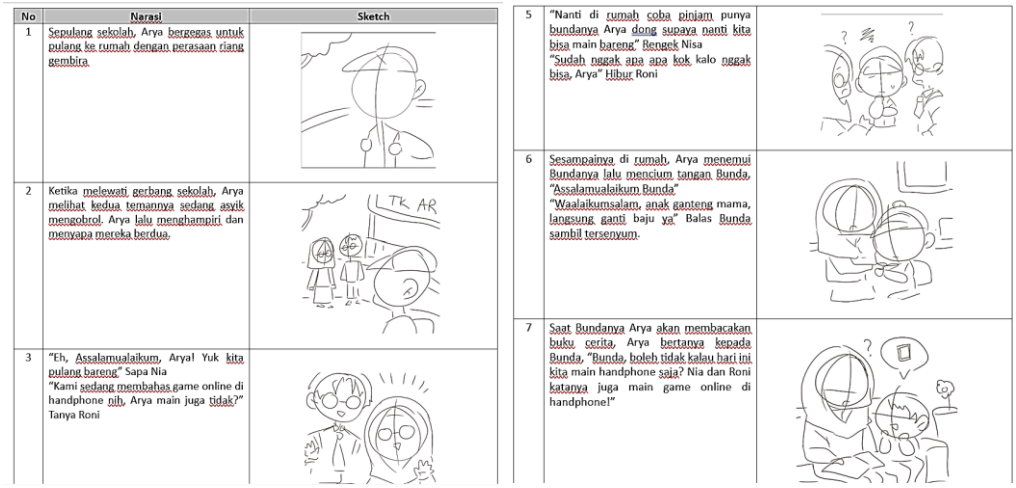
needs that the product has not yet fulfilled. The objective of this phase is to serve as a benchmark for achieving the development goals.

RESULT AND DISCUSSION

The first phase undertaken is the analysis phase, in which the researcher analyzes the difficulties parents face in stopping or reducing their children's use of electronic devices when playing at home, often leading to excessive and unmonitored usage. Efforts by teachers to provide understanding and warnings regarding excessive electronic device usage have not yielded optimal results. Through an analysis of the problems faced and the needs of educators and parents, the development of a learning media that can assist educators and parents in providing children with an understanding of reducing electronic device usage becomes necessary. The selected media is a picture storybook due to its characteristics that support early childhood development.

The second phase of this research is the design phase, in which the researcher begins with the conceptual design of the story to be developed. The researcher creates a storyboard (Figure 1) consisting of the core story plot, character selection, and determination of character traits to be used. This is accomplished using Microsoft Word and the design visualization is sketched using the Medibang Paint application.

Figure 1. Storyboard of the Picture Storybook



In this phase, the researcher also writes the concept of the picture storybook clearly and in detail, ensuring that every design created is suitable for consumption by young children. This aligns with the initial goal of developing this picture storybook learning media, which is to reduce electronic device usage in early childhood.

The third phase of this research is the development phase, which includes the development and realization of the designs created in the previous phase. The researcher

uses Microsoft Word to refine the story's script and completes the visual design of the picture storybook using the Medibang Paint and Canva applications, which combine text and illustrations prepared earlier.

The characteristics of the picture storybook developed by the researcher include clear and attention-grabbing images for children, with concise text to suit the needs of young children. The developed picture storybook is designed to be as attractive as possible, making it easier for educators, parents, and guardians to deliver clear moral messages through the storybook that will be read to the children.

Specifically, the developed book product is a picture storybook that uses a thick art carton cover, while the book's content is printed on 70-gram HVS paper. The picture storybook developed is titled "Arya and Mom's Mobile Phone" (Figure 2), with illustrations dominating the pages of the storybook and using simple, easily comprehensible text tailored for young children. The book features Islamic character representations, such as modest attire, polite speech, and other Islamic values (Figure 3). The picture storybook also employs expressive illustrations, making it easier for children to understand the story's context through the accompanying images.

Figure 2. Cover and Contents of the Book "Arya and Mom's Mobile Phone"

In this phase, the researcher developed a performance assessment instrument as an evaluation tool to determine whether the developed picture storybook is suitable for use and serves the intended purpose of reducing electronic device usage in young children. The assessment instrument, which had been designed, was submitted to expert validators to assess the suitability of the media development in terms of its appropriateness for young children, the media, and the language presented. The expert validators included a media expert, an early childhood education expert, and a language expert. The assessment results were used to refine and improve the product based on the critiques and suggestions received. The table below presents the results of the validator assessment:

Table 1. Validator Assessment Results

No	Validator	Total Validation Assessment	Criteria
1	Media Expert	82%	Very Good
2	Early Childhood Education Expert	94%	Very Good
3	Language Expert	82%	Very Good

Based on the data presented in the table, the picture storybook developed by the researcher received a rating of 82% from the media expert validator, 94% from the early childhood education expert validator, and 82% from the language expert validator. An analysis of the validation results leads to the conclusion that the picture storybook is a highly effective and suitable media development product, with some areas for improvement, including the use of effective language, punctuation, conjunctions, and image size to better align with the target audience of young children.

The next phase is the implementation phase. The researcher implemented the picture storybook titled "Arya and Mom's Mobile Phone" to a group of 5-6-year-old children at TK Ar-Riyadl, East Jakarta, to obtain feedback on the product. During this phase, the researcher collaborated with 10 parents of the students to read the picture storybook to the children at home over a period of three weeks. Parents filled out questionnaires provided by the researcher to assess the appearance, interest, content of the storybook, illustrations, language usage, and the children's responses after listening to the storybook read by their parents. Table 3 below shows the results of the implementation evaluation for 10 children in the B group at TK Ar-Riyadl.

Table 3. Implementation Evaluation Data Processing Results

No	Child's Initials	Total Validation Assessment	Criteria
1	SP	84%	Very Good
2	DR	82%	Very Good
3	KP	94%	Very Good
4	MF	76%	Good
5	AM	78%	Good

6	DA	94%	Very Good
7	KN	74%	Good
8	PD	76%	Good
9	AS	86%	Very Good
10	RH	90%	Very Good
	Average	**83%**	**Very Good**

Based on the table above, the evaluation results provided by parents as users of the picture storybook "Arya and Mom's Mobile Phone" showed an average score of 83%. Therefore, it can be concluded that the picture storybook "Arya and Mom's Mobile Phone" is highly effective for use as a medium to reduce the use of electronic devices by the children in the B group at TK Ar-Riyadl.

The final phase is the evaluation phase. During this phase, the researcher received feedback from parents in the form of suggestions, such as using language that is less formal to facilitate the children's understanding when parents read the picture storybook. The researcher then made revisions based on the validator's suggestions, resulting in the final product, as depicted in Figure 3.

CONCLUSION

The illustrated picture book "Arya and Mom's Mobile Phone" is the result of the development of illustrated storybook media using the ADDIE method, which consists of the phases of Analysis, Design, Development, Implementation, and Evaluation. The illustrations in the "Arya and Mom's Mobile Phone" book are engaging to children due to the attractive cover, bright colors, diverse character images, expressions that match the storyline, easily understandable language, and an engaging story. Based on the research findings, it can be concluded that the developed illustrated storybook media product "Arya and Mom's Mobile Phone" is considered suitable for use and can be employed as a medium to introduce young children to the effects of mobile phone usage, thereby preventing and reducing mobile phone use among children. Researchers can suggest to parents to approach children by redirecting their attention from mobile phones to other activities,

such as reading books, playing with toys that enhance child development, and increasing a child's interaction with their surrounding environment. Another suggestion is to further develop illustrated storybook media with different themes.

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