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DEVELOPING POP-UP BOOK MEDIA TO INFLUENCE CHARACTER EDUCATION IN EARLY CHILDHOOD

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ABSTRAK

Penelitian ini bertujuan untuk mendapatkan informasi tentang media pembelajaran Pop-Up Book yang layak untuk menanamkan pendidikan karakter dan mengetahui efektivitas media pembelajaran Pop-Up Book untuk anak usia dini. Media pembelajaran Pop-Up Book yang dikembangkan terdiri dari gambar animasi yang menampilkan 6 pendidikan karakter (Religius, Toleransi, Disiplin, Mandiri, Santun, dan Peduli). Jenis penelitian yang dilakukan adalah penelitian dan pengembangan (R&D) yang mengacu pada model pengembangan ADDIE. Subjek dalam penelitian ini adalah 40 siswa Kelas B usia 5-6 tahun di TK Al Fatah Sedan Yogyakarta. Instrumen yang digunakan dalam penelitian ini adalah lembar observasi penilaian anak, lembar penilaian validasi ahli media, lembar penilaian validasi ahli materi, lembar penilaian respon guru, dan lembar penilaian respon siswa. Hasil penelitian ini menunjukkan bahwa Media Pembelajaran Pop-Up Book untuk penanaman pendidikan karakter menurut penilaian ahli materi mencapai skor 92,19 dengan kategori "Sangat Layak". Penilaian dari pengguna siswa kelas B usia 5-6 tahun memberikan respon "Ya" yang berarti baik dari semua aspek penilaian dan penilaian dari pengguna guru mencapai skor 97,72 dengan kategori "Sangat Layak".

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Keywords:	ABSTRACTS
Pop-up book media; Character education	This study aims to obtain information about Pop-Up Book learning media that is suitable for instilling character education and to determine the effectiveness of Pop-Up Book learning media for early childhood. The Pop-Up Book learning media developed consists of animated images that display 6 character education (Religious, Tolerance, Discipline, Independent, Polite, and Caring). The type of research conducted is research and development (R&D) which refers to the ADDIE development model. The subjects in this study were 40 Class B students aged 5-6 years at Al Fatah Sedan Kindergarten Yogyakarta. The instruments used in this study were child assessment observation sheets, media expert validation assessment sheets, material expert validation assessment sheets, teacher response assessment sheets, and student response assessment sheets. The results of this study indicate that Pop-Up Book Learning Media for instilling character education according to material expert assessments reached a score of 92.19 with the category "Very Appropriate". Assessments from class B student users aged 5-6 years gave a response of "Yes" which means good from all aspects of the assessment and assessments from teacher users reached a score of 97.72 with the category "Very Appropriate".

A. INTRODUCTION

In addition to academic education, there are aspects of character education that need to be instilled in students from an early age. Character education is an internal process to develop students' ability to make everyday decisions. Character education in Indonesia is considered a key element of the education system based on "Law Number 20 of 2003 Article 3." This article highlights the central role of national education in shaping personality, building a civilized civilization, and enhancing the intelligence of the nation's life (Hadisi 2015).

Character education is a method for developing moral values in children. It involves understanding, awareness, dedicated attention, and a strong determination to implement these principles. This approach focuses on developing moral values toward God Almighty, oneself, one's environment, society, and the national ecosystem as a whole (Hidayah et al. 2020)

During childhood, spontaneous behavior is often seen during activities and social interactions. Children can have difficulty distinguishing between acceptable and unacceptable behavior, especially without direct communication or guidance from adults regarding expected behavior (Ismawati and Alif 2021). Early Childhood Education (PAUD) is an environment that allows children to lay the foundations for their development during their golden years. Psychologists emphasize that this golden age is irreversible and crucial in shaping the quality of future human development (Idris 2016).

Armai Arief stated that "parents have a key role as the primary and initial educators for children because it is from them that children first receive teaching." Therefore, parents' actions and words need to be considered carefully, because children tend to imitate the models they see and hear (Nabila et al. 2021). In her research, Hilda also stated that character education needs to be instilled from an early age, following the steps of a child's development. This emphasizes that the process of forming a child's personality requires diligence and patience from educators, with harmonious support from both parents, and school life (Devianti et al. 2020). In line

with this, Cahyaningrum stated that the first thing children must know as the beginning of character education includes preparing children for their future as individuals with identity, as well as guiding them to become people with noble character through habits and role models (Cahyaningrum et al. 2017).

One of the most significant outcomes of providing character education to children is that it can help them develop their emotional intelligence. This aligns with research by Joseph Zins, which summarizes the positive impact of emotional intelligence on children's school success. The risks mentioned do not lie in intellectual intelligence, but in traits such as self-confidence, cooperation, sociability, concentration, empathy, and communication skills (Juhriati and Rahmi 2021).

All forms of children's activities and behavior are inherently normal. This is because childhood is a critical period in personality formation, where children are not yet fully aware of the consequences of their actions. They tend to focus on personal happiness and comfort without considering whether such behavior is harmful or beneficial. Therefore, parents and educators are entrusted with guiding and directing children so they can engage in activities that benefit their personal development in adulthood (Nurfadlia and Rachmawati 2022).

The early years of a child's life, or early childhood, play a significant role as the primary foundation for their growth and development. This aligns with Uce's opinion that during early childhood, physical and psychological maturation occurs, preparing the child for the next stage of development (Uce 2015).

Character education encompasses efforts to improve a child's morals, thinking, and physical health to adapt to their natural environment and society. This definition can vary depending on the perspective, paradigm, methodology, and discipline used by experts. For example, "Ki Hadjar Dewantara stated that education is an effort to improve a child's personality, thinking, and physical condition" (Puspita and Setyaningtyas 2022).

Character education plays a crucial role as a guide for educational implementation in various institutions. This is particularly significant for Indonesia's younger generation, given the decline in morals across various sectors, including education (Samrin 2016).

The term "character" comes from the Greek meaning 'to mark', with a focus on the application of good values in everyday actions. "According to the Director General of Islamic Religious Education, Ministry of Religious Affairs of the Republic of Indonesia in 2010, character can be defined as the totality of personal attributes manifested in a person's distinctive behavior, thus closely related to individual identity" (Ni'matuzahroh and Niyarci 2022).

In her research (Istiqomah et al. 2019), she stated that practicing the habit of saying "I'm sorry," "please," and "thank you" is instilled in children from an early age to shape their personality. Implementing character education values plays a role in advancing children's religious and moral values by continuously shaping their character. Children become accustomed to communicating, behaving, and having positive attitudes toward those around them.

Media serves as a tool for conveying messages and is a crucial indicator in achieving learning objectives. Appropriate use of media in learning can create an active, effective, and efficient learning environment, while providing students with

enjoyable, hands-on learning experiences and boosting their motivation (Hasan, 2021).

In the research (Ainissyifa 2017) on "Development of Pop-Up Book Media Based on Folk Tales to Improve Early Reading Skills and English Vocabulary Recognition of Children Aged 5-6 Years" "gained an understanding that learning media supports the teaching and learning process. Learning media is used with the aim of making learning more interesting, innovative, and creative, in addition to that children are also actively involved in the learning activities."

In line with this, (Masturah et al. 2018) explained that the advantage of pop-up books is their ability to enhance the visual appeal of images. Pop-up books can be an effective learning tool, whether used individually or in groups. Pop-up books offer practicality that can increase student learning motivation through three-dimensional representations of lesson concepts. Another advantage lies in their unique appearance, which differs from two-dimensional learning media, as well as the dimensions of the images that appear when the book is opened.

A literature review on the use of pop-up books to improve science literacy and student motivation indicates that pop-up books offer new opportunities in science education. These books present information not only conventionally but also utilize interactive three-dimensional elements to create an engaging visual experience for readers. The article search results indicate that pop-up books are effective in enhancing understanding of science concepts and sparking student interest in learning. The study also highlights the need to develop pop-up books based on science literacy to ensure proper integration with the curriculum and enhance student understanding of scientific concepts. The use of pop-up books in science education can be an effective strategy for improving science literacy and student motivation. However, challenges that need to be addressed include developing pop-up books based on science literacy and ensuring their accessibility for all students. It is also important to consider sustainability and scalability in pop-up book development, as well as considering individual student needs and preferences in the learning process. Thus, the use of pop-up books can be an integral part of efforts to improve science learning in elementary schools. The effectiveness of Pop-Up Books is even more evident when used with a structured and contextual pedagogical approach, such as integrating local folktales, featuring characters with cooperative values, or including collaborative activities after reading. This provides a great opportunity for teachers to use Pop-Up Books as an alternative medium for creative, fun, and meaningful character learning. Therefore, the author recommends that elementary school teachers begin to develop and utilize Pop-Up Books more widely in Pancasila Education learning, especially for materials related to social and national values. Teachers are also advised to not only use Pop-Up Books as visual aids, but also integrate them into active learning strategies such as group discussions, role-playing simulations, or moral reflection to encourage the internalization of values.

Observing the context and problems that have been described, in this study the researcher will develop a storybook with a Pop-Up style that will be developed both in terms of content and display content. This media is expected to help educators in providing an understanding of character education in a simpler but clear and easily understandable way for children, so the researcher focuses the study of the problem on

"Development of Pop-Up Book Learning Media for Instilling Character Education in Early Childhood".

B. METHOD

This research applies the R&D (Research and Development) method, often referred to as "Development." The research and development approach is a highly effective strategy for more concretely improving the effectiveness of learning practices. Therefore, development research plays a crucial role in finding solutions to learning problems through the development of specific products (Hanafi 2017).

This research uses the ADDIE method, a development model introduced by Dick and Carry. The ADDIE model was chosen for this study based on its suitability for developing learning media in the form of Pop-Up Books, with a focus on instilling character education values for early childhood, particularly in the 5-6 year old age group, within an educational context. ADDIE is considered an appropriate development model when applied in educational contexts related to the development of knowledge, attitudes, and skills (Cheung, 2016). The development model in this study adopts the ADDIE model, which consists of the stages of analysis, design, development, implementation, and evaluation. This study chose the ADDIE model because of its suitability for the educational context. The stages of ADDIE model development include: analysis, design, development, implementation, and evaluation.

Product trials are activities conducted to evaluate the effectiveness of Pop-Up Books in integrating character education for children. This activity is conducted on a small scale to achieve specific objectives. Aspects considered in the trial design include 1) trial design, 2) trial subjects, 3) data collection techniques and instruments, and 4) data analysis techniques.

In this study, the researcher used the following data collection methods:

a. Observation

Structured observation was conducted in this development research to understand the field situation and assess the needs of students and teachers at the school. This type of observation involves the use of an observation guide, with the researcher having developed an instrument or observation guide before conducting the observations.

b. Interviews

The interviews conducted by the researcher were aimed at teachers. The researcher wanted to find out: how character education is delivered in schools, what media are used to instill character education, and whether they were familiar with and had previously used Pop-Up Book learning media. This outlines the questions in the teacher interviews.

c. Questionnaire

The prepared questionnaire was in the form of a checklist, where respondents simply had to mark a checkbox (√) in the column corresponding to the available options. Evaluation of the Pop-Up Book as a tool for instilling character education in children aged 5-6 years was conducted by subject matter experts and media experts using a questionnaire with a scale of 1-4, where 1 = very good, 2 = fairly good, 3 = good, and 4 = poor. This questionnaire was used in the research and development of the Pop-Up Book for children's character education.

In the development process of this research, the data analysis techniques employed involved qualitative and quantitative approaches. This analysis focused on evaluating data from subject matter and media experts, including their responses, input, and suggestions. This data served as the basis for considering product improvements. Quantitative data analysis, meanwhile, utilized established statistical methods, with data obtained through questionnaires distributed to subject matter experts and media experts, as well as through initial trials and the main field test.

After assessing the responses of the media experts, subject matter experts, the initial field test, and the main field test, the next step was to determine the scoring method to arrive at the final results.

This research began with a needs analysis through observation and interviews. Five days of observation in group B showed that children tended to be sleepy, lacked focus, and preferred playing to monotonous conventional learning. The class teacher, Mrs. Imsa, emphasized that children were more interested in learning with pictorial and interactive media because it stimulated curiosity and increased engagement. This indicated a gap between ideal learning, which should be active, fun, and participatory, and the reality, which remained monotonous. As a solution, the researchers designed a pop-up book with the theme "Getting to Know Animals," chosen based on children's interests in their surroundings. The design was carried out in collaboration with graphic designers and child education experts, resulting in bright, interactive visual elements that were appropriate for cognitive development. Each page was designed to display not only three-dimensional images but also moving elements, such as animals with movable body parts. Teachers were involved in designing learning strategies, including reading activities.

The validation phase involved child education and media design experts who provided input on adding simple text and varying interactive elements. A limited trial with 6–8 children demonstrated high enthusiasm, although some struggled with certain elements. After revisions, field trials with 15–20 children proved that pop-up books were effective in increasing children's participation, motivation, and comprehension. Evaluation through observation, interviews, and analysis of children's work showed that this medium was capable of supporting visual literacy development, although improvements were still needed in the text and interactivity aspects. Thus, the development of pop-up books proved relevant and effective for improving visual literacy in children aged 5–6 years.

C. RESULT AND DISCUSSION

Based on the explanation in the previous chapter, namely the research methods chapter, this research produced a product in the form of a Pop-Up Book learning media containing character education content. This book is designed to help teachers instill character education in children through real-life visualizations of the images contained in the Pop-Up Book.

Before discussing the initial product development results, a needs analysis was the first step in developing Pop-Up Book learning media to incorporate character education into children aged 5–6 years. A preliminary study phase, which involved interviews with teachers, was conducted in this study.

A needs analysis was conducted in five schools, namely Pembina 1 Kindergarten Klaten, Pertiwi Petambirit Kindergarten Klaten, Pertiwi 1 Mandong Kindergarten

Klaten, Duta Ananda Islamic Kindergarten, and Al Fatah Sedan Islamic Kindergarten. In the initial preparation stage, data was collected through a question and answer session with a teacher from each of the aforementioned kindergartens. These teachers were interviewed regarding six main aspects that had been determined. These six aspects include: (1) Has the school ever implemented learning related to instilling character education?, (2) What types of materials have been delivered to students related to learning to instill character education?, (3) Are there any special strategies in implementing learning to instill character education to children used by teachers, if so, what strategies do teachers use to ensure it is conveyed well to children?, In addition, do teachers use various types of learning media as sources for teaching character education to children? (4) To what extent is the effectiveness of the learning media that teachers have used in supporting children's character learning? What are the main obstacles faced by teachers in delivering learning materials that focus on instilling character education? (5) Has the use of Pop-Up Books as learning media been implemented in the school environment? (6) What are mothers' views on the use of Pop-Up Books as a character learning tool for children? Do they think this will be effective?

The results of the interview from the questions above to the teacher as a resource person can be obtained and concluded as follows: (1) The school has implemented and applied the instillation of character education in children. (2) The instillation of character education in schools is given during teaching from Monday to Friday, specifically the instillation of character education is given during the teaching and learning process where the material given to children aims to develop the religious and moral values of children. The drawback is that there is no specific material for the instillation of character education because the instillation of character education in every teaching and learning process is definitely given to children, for example in the material *Myself* there is the instillation of character education when introducing body parts that must be cleaned, this leads to the instillation of caring and independent character education, *My Country* there is the application of character education when getting to know religion in Indonesia and so on. Therefore, a visual depiction is needed, not just directed activities and verbal delivery to children. (3) When delivering material, teachers use media as teaching materials, such as pictures printed on paper and story books. However, there are no printed picture books for instilling character education as a whole, not for each character, while most of the character education given to children is in the form of oral delivery such as advice and also giving examples in an activity action. (4) The media used by teachers is quite effective for children to understand the delivery of material by teachers. The obstacles are the limited media used by teachers, the lack of time and knowledge of teachers to create good and interesting media for children, and the difficulty of finding the right media for children related to instilling character education for children. (5) Previously, the use of Pop-Up Books already existed in schools in the form of simple Pop-Up Books used as children's reading material and examples for children in delivering material, but not for learning related to instilling character education. (6) The use of Pop-Up Books as a means of learning children's character is considered important to complement the character education efforts given by teachers. In addition, this also provides variation in learning media that can be an effective tool for children's development, as long as the Pop-Up Books are designed with high appeal.

In this research, a Pop-Up Book was developed, a visualization for teaching character education to young children. This Pop-Up Book serves as an appropriate learning tool for early childhood, with the goal of fostering good character from an early age and as a process for helping children understand that character education will shape them into good individuals in the future.

The Pop-Up Book media designed to support character education consists of 11 pages. The structure of this book involves a 1-page foreword, 8 pages of Pop-Up Book material highlighting values such as religious, tolerance, discipline, independence, courtesy, and caring. In addition, there is a 1-page bibliography and author profile. By presenting illustrations that can be understood by children aged 5-6 years, this book aims to be an effective learning tool in accordance with their cognitive development. The material in the Pop-Up Book comes from character education values, including aspects of religion, Pancasila, culture, and the goals of Indonesian national education. Therefore, this book aims to instill a number of values in early childhood based on four sources of values. The researcher focused on six characters (concepts) of character education, namely religious, tolerance, independence, discipline, courtesy, and caring (Hadissi, 2015). The next stage is the researcher asked for help from an illustrator to help create the image design of the Pop-Up Book that will be used. References used in designing the pop-up book illustrations include:

1) Color

The colors used in creating pop-up books to instill character education are bright, with the aim of attracting children's attention. The use of red, yellow, blue, and green will draw children's attention to the images displayed in the pop-up book, preventing them from feeling significantly bored.

2) Font Shape and Style

The selection of interesting images and texts will help children to better understand the concept, and make it easier for children to remember what they have learned from what has been displayed from the Pop-Up Book. In the development of the Pop-Up Book to instill character education, the Time New Roman font style is used for bold writing in the text in the Pop-Up Book while the Comic Sans MS font style is used for writing in making concept maps in the Pop-Up Book. The shape and style of the letters displayed are adjusted to the visuals seen in the Pop-Up Book for the text in the appearance of all character education displayed is made in bold and the beginning of the sentence is capitalized while for the initial and final information text in the book the title is printed in bold and the beginning of the sentence is capitalized, this is to make it easier for children to read the text because the introduction of letters in children is more often with lowercase letters in reading.

3) Picture

The images in the Pop-Up Book to instill character education must be in accordance with the material and concept maps that have been raised in the initial discussion of the book.

4) Print Size

The size of the Pop-Up Book in this study was adjusted to the number of children in the class and the size of the class used in the study. As explained by (Arsyad, 2007), the size of the media in the form of picture media is

adjusted to the number of children; the more children, the larger the picture media size. In the development of Pop-Up Books to instill character education, the Pop-Up Book size is 18 cm x 25 cm.

In this study, researchers collaborated with an illustration artist to create images that would be integrated into pop-up books as a character education tool for children aged 5-6 years. These illustrations would be animated or cartoon-like, tailored to the interests and comprehension levels of preschoolers. The design process by the illustrator took approximately one month.

Once the design is finalized, the Pop-Up Book product development phase will begin as planned. In the final step, modifications are made to the text, colors, and images. The text must be edited to meet the standards of readers aged 5-6. This method prevents typos, and color choices must be appropriate and appealing to children. Images are edited to suit the target age group of 5-6 for a consistent visual experience. After this process, a double check, called finishing, is performed to ensure all components align before printing the final product.

A trial of the Pop-Up Book character education as a learning medium for children aged 5-6 years involved one teacher and nine children to assess the response to the use of the Pop-Up Book character education at Duta Ananda Islamic Kindergarten in Yogyakarta. The assessment was conducted after the teachers studied and understood the Pop-Up Book character education as a learning medium related to instilling character education in children aged 5-6 years.

Table 1. Percentage of feasibility based on initial stage trials

NO	MARK	CRITERIA	INFORMATION
1	76-100	Very good	Very Worthy
2	51-75	Good	Worthy
3	26-50	Enough	Less than worthy
4	<26	Not enough	Not feasible

Based on previous calculations, by accumulating the results, an analysis of user responses to the Pop-Up Book character education media for children aged 5-6 years resulted in a final score of 97.72. Therefore, it is concluded that this media is considered Very Appropriate.

In addition to the assessment, there was also a positive response to comments and suggestions related to the Pop-Up book on character education for children aged 5-6 years. The response received regarding the Pop-Up book in the context of teaching and developing children's character in Kindergarten (TK) was very encouraging. Pop-Up Book is considered a very useful tool for teachers to help in the learning process in instilling character education from an early age to children. Learning media brings variety to the teaching process and makes it easier for teachers to deliver material and instill character education to children which can also be done by children wherever they are later. Teachers recommend the use of Pop-Up Book in character development for children aged 5-6 years, because it is considered appropriate to support the learning process, easy for teachers and children to understand. Another suggestion is that it would be better to set one word or name of one place in the book so that children do

not have difficulty understanding when the teacher explains in this context the naming of places of worship in Indonesia.

The difference test on 40 children using posttest 1 and posttest 5 showed significant results. The calculated t value of 11.708 with a significance of 0.000, indicates a significant difference between Posttest 1 and Posttest 5, because the significance value (Sig) of 0.000 < 0.05. Posttest 5 produced a higher score compared to Posttest 1. As a result, the null hypothesis (H_0) is rejected and the alternative hypothesis (H_a) is accepted.

Analysis/Discussion

This development study aims to create an innovative learning media in the form of a Pop-Up Book that focuses on how to instill character education in children, especially children aged 5-6 years. The developed media is used to increase children's knowledge regarding character education and make it easier for teachers to instill character education itself to children from an early age. As explained in the problem identification, of the 90 TK/Paud spread across Yogyakarta province, 51 or 57% of TK/Paud are not yet familiar with Pop-Up Book learning media, and also with the same results, 51 or 57% of teachers/educators have not provided character education learning to children using learning media, especially PopUp Books. Therefore, this development research is focused on developing learning media to increase children's knowledge regarding character education and as a means to make it easier for teachers to instill character education itself.

The development of the Pop-Up Book for character education took into account the needs of students. The material was determined by referring to relevant literature and other reading sources. As a result, the researchers came up with the idea to develop a Pop-Up Book for character education for children aged 5-6 years. The final specifications of this product are:

- a. Pop-Up Book Size: 30 × 25
- b. Pop-Up Book cover paper type: Hard Cover
- c. Paper type on the instruction page: Art Paper
- d. Paper type on Pop-Up page: Ivory
- e. Type of font for sentences without images: Times New Roman
- f. Font type for words/sentences in the image: Comic Sans MS

Before being tested on a small and large scale, the Pop-Up Book character education for children aged 5-6 years underwent validation by experts. This study used a time series testing method, conducting four series of trials to determine the increase in children's knowledge regarding character education. After analyzing the results of the four series, the researchers then tested the effectiveness of the developed product. The line graph shows a significant increase from posttest 1 to posttest 5.

The posttest was tested using a paired-t test, and the results showed a calculated T value of 11.708 with a significance level of 0.000. Referring to the paired-t test decision guidelines (Sig < 0.05), it can be concluded that there is a significant difference between the results of Posttest 1 and Posttest 5.

Teachers rated the Pop-Up Book character education as Very Adequate after testing it on both a small and large scale. This demonstrates that the book meets quality

standards. This Pop-Up Book is an effective learning tool for teaching character to children aged 5-6.

In a study (Rustini 2018) on "Development of Pop-Up Storybooks Based on Multicultural Education for Early Childhood" conducted in a kindergarten in Sleman, Yogyakarta. Her research obtained preliminary research results explaining that teachers have difficulty in providing examples of implementation to children, examples of the application of why praying in different ways, why discipline, responsibility, and others related to character building. Relevant to this study is the development of the same learning media and also both emphasize the character building of early childhood, namely multiculturalism related to tolerance. While this study is more diverse with 6 character education discussed in the book developed.

In line with this (Miftah 2013) regarding "Development of Pop-Up Book Media Based on Folk Tales to Improve Early Reading Skills and English Vocabulary Recognition of Children Aged 5-6 Years" gained an understanding that learning media is a medium that can support teaching and learning activities. Learning media is used with the aim of making learning interesting, innovative, and creative, in addition to children also being actively involved in the learning activities. Relevant to this research is seen from the development taken both Pop-Up Book learning media and also the same use of habituation in using media to achieve the objectives of the development carried out. The difference is that this research is about the habituation of early reading and English vocabulary in children, while the research conducted is about the habituation of instilling character education in children through PopUp Book learning media.

In the research conducted (Nahar 2016) "Development of 3-Dimensional Book Media (POP UP) as a Tool to Instill Character Values in Early Childhood" in his research, this research reviews Pop Up Book media designed to instill character values to students. The relevance of this research can be seen from the development of the media chosen and its main objective, namely developing media as a means to support the instillation of character values in students or early childhood. The difference is that the research was aimed at Kindergarten A children while the current research is aimed at Kindergarten B children.

In implementing an effective learning process with pop-up books, it is important to consider various factors, including book design, material content, and integration with the existing curriculum. Pop-up book designs should be engaging and challenging, combining engaging visual elements and information relevant to the subject matter being studied. The content in pop-up books should also be tailored to the level of understanding of elementary school students, incorporating science concepts aligned with the national curriculum. It is also crucial to ensure that the use of pop-up books in learning is not merely supplementary or merely entertaining, but is fully integrated with the existing curriculum. This requires careful lesson planning and collaboration between teachers, curriculum developers, and pop-up book designers. Thus, the use of pop-up books can become an integral part of the broader learning process, helping students better understand scientific concepts and increasing their learning motivation. However, it is important to remember that the use of pop-up books in learning is not the sole solution to improving students' scientific literacy and learning motivation. It is only one of many learning strategies that educators can use to achieve these goals. Therefore, a holistic approach is needed in designing and implementing science

learning in elementary schools, taking into account various factors that influence students' learning processes. Therefore, it is important for educators to adopt a differentiated approach in learning, taking into account the individual needs and preferences of students. This can be done by providing various types of learning materials and resources, including pop-up books, so that each student can learn according to their respective learning styles. Furthermore, it is also important to remember that pop-up books can be used not only in classroom learning but also outside the classroom as independent learning aids. Thus, pop-up books can be a valuable learning resource for students at home, helping them develop their interests and understanding of science independently. This is important considering that learning does not only occur in the classroom, but also outside the classroom and throughout life. In the context of developing pop-up books based on scientific literacy, it is also necessary to consider sustainability and scalability in the development process. This includes ensuring that pop-up books are accessible to all students, including those in rural or remote areas. Furthermore, it is also necessary to consider environmental aspects and sustainability in the production process of pop-up books, so that they do not have a negative impact on the environment.

CONCLUSION

Pop-Up Book learning media for instilling character education in early childhood, especially children aged 5-6 years, from the results of the needs analysis in the preliminary study, it can be found that in schools have provided learning related to the instilling of character education, but the material taught to children does not have specific material regarding the instilling of character education, where the provision of character education to children is only included in other learning materials. The absence of specific material related to character education results in teachers' limitations in providing significant material because teachers are still confused about how to convey material related to the instilling of character education specifically to children and the lack of media facilities that support teachers in transferring material about character formation, also causes a lack of effectiveness when conveying information to children. Therefore, the basic principles and objectives that researchers want to realize in creating Pop-Up Book media related to the instilling of character education are not merely the instilling of character education only done through moral messages such as advice or mandates given by teachers to students. Judging from the good activities that can improve the instilling of character education to children, the existence of this Pop-Up Book media can enhance teachers in providing more specific learning about the instilling of character education to children.

The sustainability of using Pop-Up Books as a character education tool has been assessed by material experts and media experts. The material experts' assessment resulted in a score of 92.19, categorized as 'Very Appropriate'. Meanwhile, the media experts' assessment resulted in a score of 88, categorized as 'Very Appropriate'.

The results of data testing using Time Series show a significant change or increase in children's understanding regarding the concept of character education instillation. The Paired T-test test shows that the significance value (Sig) of Posttest 1 and Posttest 5 is 0.000, which is less than 0.05. By referring to the decision of the Paired T-test test, it can be concluded that a significant difference exists between the results of

Posttest 1 and Posttest 5. This shows that the Pop-Up Book character education media has had a positive impact in increasing children's knowledge regarding character education instillation after conducting and going through a series of learning using the media.

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