Cognitive and Motor Development in Early Childhood in Sambopinggir Village, Karangbinangun District, Through Interactive Busy Book Media

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Abstract: *Satuan PAUD Sejenis (SPS) is a non-formal education program designed for early childhood as preparatory assistance before children enter primary education. Sambopinggir Village in Lamongan is one of the villages that organizes SPS activities on a weekly basis. The lack of instructional media often creates challenges for the teaching facilitators of the SPS program in Sambopinggir Village in delivering lessons effectively. Based on this situation, the 2024 KKN (Community Service Program) students of Darul 'Ulum Islamic University of Lamongan initiated the development of a Busy Book as an alternative interactive learning medium to support the teaching and learning process in the SPS program of Sambopinggir Village. The Busy Book is expected to assist SPS facilitators in improving students' focus, cognitive development, and motor skills.*

Introduction

The Sustainable Development Goals (SDGs) agenda initiated by the United Nations (UN), which is targeted to be achieved by 2030, consists of 17 goals designed to support the realization of sustainable development. Based on data from the Sustainable Development Report 2023, Indonesia has experienced an increase in its SDGs achievement score, rising from 64.02% in 2019 to 69.04% in 2024. This improvement places Indonesia 4th in the ASEAN region and 78th globally (Sachs, Lafortune, and Fuller 2024).One of the goals within the SDGs framework is Goal 4: Quality Education. This goal emphasizes ensuring inclusive and equitable quality education and promoting lifelong learning opportunities for all. The assurance of educational quality is not

limited to formal education, from primary school (SD) to higher education (universities), but also includes pre-school education or Early Childhood Education (ECE) (Ananda and Masduki 2022). The achievement of this goal ensures that all girls and boys have access to quality early childhood development and care, as well as quality pre-primary education (Bappenas RI 2024).

Education aimed at early childhood is a developmental effort implemented for children from birth up to six years of age through the provision of educational stimulation to support their physical and psychological growth and development, so that they are prepared to enter and undertake primary education (Saputra 2019). There are various forms of education and assistance for early childhood, both formal and non-formal. One example of non-formal early childhood education assistance is the Satuan PAUD Sejenis (SPS) program. According to the website of the National Population and Family Planning Board (BKKBN), SPS is defined as a form of non-formal early childhood education that provides educational services for children aged 2–4 years. This program aims to improve the quality of children's growth and developmental aspects, as well as to help them sharpen and explore their existing abilities (BKKBN 2024).

The implementation of the SPS program involves multiple stakeholders and utilizes supporting facilities and infrastructure for teaching activities. Various types of educational learning media greatly assist SPS facilitators in introducing learning materials to children. These include different types of toys and interactive media that can enhance participants' cognitive and motor skills. The SPS program has been promoted in several regions in Indonesia as a form of commitment to supporting early childhood development, including in Lamongan Regency. Based on a press release published on the official website of the Lamongan Regency Government, the SPS program was officially launched on August 12, 2023, at the Karangbinangun District Office, Lamongan Regency. One of the villages targeted for SPS implementation is Sambopinggir Village, Karangbinangun District, Lamongan Regency. The SPS program in Sambopinggir Village has been operating for approximately one year and is managed by local Posyandu cadres. The SPS activities focus on sensory development and character building among participants.

Based on the information above, the 2024 Community Service Program (KKN) students of Darul 'Ulum Islamic University of Lamongan initiated the development of an interactive learning medium as an applied output of the Smart Village work program to support the implementation of the SPS program in Sambopinggir Village. The interactive medium developed was a Busy Book. A Busy Book is a book designed to enhance children's basic skills in matching various materials presented within the book. The term "Busy Book" refers to a book that keeps children actively engaged, encouraging SPS participants to stay focused on the book they are using. It is expected that the development of this Busy Book will serve as a supportive interactive learning

medium for the SPS program in Sambopinggir Village. Furthermore, it is expected to improve children's focus as well as their cognitive and motor skills.

Method

The target subjects of this community service activity were the Posyandu cadres of Sambopinggir Village, Karangbinangun District, Lamongan Regency. The cadres involved would later distribute the interactive Busy Book to SPS participants in Sambopinggir Village. The stages conducted in this service activity were:

1. Interviews with Posyandu Cadres
   Interviews were conducted to gather in-depth information regarding the condition of the SPS program implementation in Sambopinggir Village.
2. Busy Book Development
   After obtaining the necessary information required for implementing the work program, the next stage was the preparation and development of the Busy Book.

There were seven stages in the Busy Book development process, described as follows:

1. Determination of Theme and Objectives
   This stage involved selecting and defining the themes to be applied in the Busy Book. The chosen themes were aligned with educational objectives and expected skill development outcomes, while also considering early childhood interests.
2. Research and Material Collection
   This stage involved conducting research on the selected themes and collecting the necessary supporting materials.
3. Visual Design
   This stage involved designing the page layout and selecting appropriate and attractive design concepts for children. Adjustments were also made to the fonts used in supporting descriptions to ensure readability and visual appeal.
4. Interaction Development
   This stage involved determining the types of interactions to be incorporated into the book. It also included identifying applied interactive elements and ensuring that they were safe and easy for early childhood use.
5. Prototype Development
   This stage involved creating a prototype of the book using prepared materials. Afterward, testing and checking of interactive elements were conducted to ensure that all components functioned properly.
6. Introduction of the Busy Book to Stakeholders
   This stage involved socializing the use of the Busy Book to SPS cadres. Feedback provided was observed and considered for future development.
7. Evaluation and Continuous Improvement
   This stage was conducted after the introduction of the media to stakeholders and its implementation with the target participants. Monitoring was carried out regularly to support further development and improvement of the media in practice.

Result and Discussion

The first stage carried out in the community service process was conducting interviews with Posyandu cadres. Based on the interviews that were conducted, several problems were identified in the SPS program faced by the Posyandu cadres of Sambopinggir Village:

1. A lack of human resources in the SPS teaching process, resulting in the program relying solely on Posyandu cadres who do not have a teaching background or professional teacher certification.
2. Limited teaching media used in the learning process. Only a few toys were available for teaching and learning activities.
3. Educational teaching aids were still very simple and highly dependent on village funds and parents' contributions.
4. There was no dedicated building for the teaching and learning process.
5. There were no standardized teaching materials used as guidelines. Teaching materials were prepared only one day before the regular program implementation in printed hardcopy format.

Based on the explanation above, it can be concluded that additional interactive media were needed to support the teaching and learning process of the SPS program in Sambopinggir Village so that the program could run more optimally. The media used should also provide clear benefits to the participants. Since the SPS program focuses on enhancing the cognitive and motor skills of early childhood participants, adequate supporting facilities and infrastructure are necessary to ensure the effectiveness of the activities. After examining various information regarding the implementation of the SPS program in Sambopinggir Village, the KKN students began developing a Busy Book as an alternative supporting medium for the SPS program.

The Busy Book developed includes alphabet recognition, shapes and geometric forms, colors, the planets of the solar system, animals, vegetables, and various professions. The Busy Book was designed using a bilingual principle, providing explanations in both Indonesian and English. The Busy Book was created using image cutouts from educational posters and rearranged on F4-sized buffalo paper. It allows children to engage in interactive activities by taking and placing image pieces according to their corresponding names. The advantages of the Busy Book include:

1. Training children to maintain focus on the activity being performed.
2. Enhancing children's cognitive skills by encouraging them to match images with their corresponding names.
3. Developing children's motor skills through physical actions such as picking up and placing objects.

Figure 2. Socialization of Busy Book Usage to SPS Teaching Posyandu Cadres of Sambopinggir VillagePosyandu Pengajar SPS Desa Sambopinggir

Figure 2 shows the process of introducing the Busy Book to the Posyandu cadres of Sambopinggir Village after its completion. The cadres responded positively to the Busy Book and stated that it would greatly assist them in implementing the SPS program by utilizing this new learning medium. Learning approaches that support cognitive and motor development in early childhood play an essential role. Through appropriate methods, such as play-based approaches, children can develop cognitive skills more effectively (Adatul'aisy et al. 2023). Motor development is also an important indicator of a child's growth and development. Therefore, it is crucial to train children's motor skills from an early age (Ansi, Syafitri, and Rumondang 2021). In line with this, children's physical activity serves as a foundation for subsequent developmental progress. Regular physical activity also improves psychological well-being by reducing stress, anxiety, and depression. (Ifalahma and Retno 2023).

The 2013 Curriculum states that Early Childhood Education learning must apply a scientific approach to provide educational stimulation. The scientific approach is a learning process designed to build attitudes, knowledge, and skills through the stages of observing, questioning, collecting information, reasoning, and communicating (Yulaikah, Hikmawati, and Winnuly 2024). Stimulation in early childhood encompasses not only language, cognitive, physical-motor, moral-religious, and social-emotional aspects, but also literacy, numeracy, and life skills that are beneficial for future life (Winnuly, Hikmawati, and Sari 2024).

The SPS program itself plays a very important role in supporting children's growth and development. Children must begin receiving stimulation to recognize and understand their environment, either independently or with assistance from others.

Gambar 3. Figure 3. Handover of the Busy Book to Posyandu Cadres of Sambopinggir VillageDesa Sambopinggir

Figure 3 illustrates the handover of the Busy Book to the Posyandu cadres of Sambopinggir Village. The development of the Busy Book was specifically intended to support the enhancement of the SPS program in Sambopinggir Village. The Posyandu cadres responded positively and planned to implement it in the weekly SPS sessions held every Saturday. The focus of the Busy Book development as a medium to support cognitive and motor development in early childhood was also positively received by the SPS teaching cadres. Previously, teaching materials had to be prepared in printed form without a fixed guideline, which made it difficult for cadres to find relevant yet engaging materials for SPS participants. The Busy Book helped reduce their workload in preparing teaching materials.

In the future, the Busy Book is expected to be further developed in more diverse forms by the Posyandu cadres of Sambopinggir Village. Its detachable and customizable concept allows cadres to add various new categories of learning materials into the Busy Book.

Conclusion

The implementation of the SPS program in Sambopinggir Village over the past year has been running well. However, several challenges were identified, one of which was the lack of interactive learning media used in the teaching and learning process. The contribution of the 2024 KKN students of Darul 'Ulum Islamic University of Lamongan through the Smart Village work program resulted in the development of a Busy Book as an output product.

The Busy Book contains various categories of basic knowledge presented interactively, thereby helping to train early childhood participants' focus, cognitive

abilities, and motor skills in its implementation within the SPS program in Sambopinggir Village.

In the future, it is hoped that there will be follow-up actions and guidance from local government authorities to support the development of the SPS program not only in Sambopinggir Village but also in all regions where the SPS program is implemented in Indonesia, so that the program can be carried out more effectively and sustainably.

Acknowledgements

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