Development of an Activity Book as a Learning Medium to Improve Expressive Language Skills in Children with Speech Delay

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ABSTRACT

The purpose of this study was to produce an Activity Book to improve the expressive language of spe.e.ch de.lay children. This study was conducted on children with speech delay with low expressive language skills. The child was not interested in the available media. Teachers at Fitrah Semesta School in building language development still use books with lots of writing that make children with speech delay feel bored. This study uses the R&D method with the ADDIE model to the Development stage by producing an Activity book. In the feasibility test, the researcher used a Likert scale in interpreting based on a questionnaire or instrument made by the researcher. The assessment of the material aspect got a score of 82.2% with a very feasible category, the language aspect 74.5% with a feasible category, and the media aspect 82% with a very feasible category. The response given by students to the activity book media was 90.78% included in the very feasible category.

Keywords: *Expressive Language, Teaching Media, Activity Books, Speech Delay, Early Childhood*

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INTRODUCTION

Early Childhood Education (PAUD) is a crucial phase in a child's education. According to the Indonesian Ministry of Education and Culture Regulation (Permendikbudristek) No. 7 of 2022, Article 2, Paragraph 4, Early Childhood Education is a training effort aimed at children from birth to six years old, carried out through educational stimulation to support their physical and spiritual growth, ensuring their readiness for further education.

Several foundational skills are essential for early childhood development, including emotional regulation, independence, decision-making skills, language abilities, and, most importantly, a positive attitude toward learning (BSKAP, 2023). These skills are structured within developmental aspects, which include (1) religious and moral values, (2) Pancasila values, (3) physical-motor skills, (4) cognitive abilities, (5) language, and (6) socio-emotional skills. In the *Merdeka* Curriculum, these developmental aspects are recognized as learning

outcomes (*capaian pembelajaran*). The foundational learning outcomes are categorized into three elements: (1) Faith and Character, (2) Identity, and (3) Fundamentals of Literacy, Mathematics, Science, Technology, Engineering, and Arts (Kemendikbudristek, 2024).

Several studies reveal that approximately 5–10% of children in schools experience language disorders, both in expressive and written language. According to Dream.co.id, one of the most common but often unnoticed developmental disorders in children is Developmental Language Disorder (DLD), a language development disorder. A study published in the *Journal of Communication Disorders* by the European Cooperation in Science and Technology Action IS1406 found that only 60% of people were aware of or had heard of the term DLD. This indicates that parental awareness of language development disorders is still low.

This issue is also present at TK Fitrah Semesta, where three children have been identified with language development disorders, specifically in speech production or articulation, commonly referred to as speech delay. Of these three children, only one has been officially diagnosed by a pediatrician specializing in child development.

Children born between 2018 and 2019—one year before the COVID-19 pandemic—had limited opportunities for language development in their environment. They spent most of their time indoors, and parental stimulation of their development was also limited due to work-from-home (WFH) obligations. One such case at TK Fitrah Semesta involves a child referred to as "N." The child's parents reported that during early development, N was frequently exposed to laptop screens due to their parents' remote work activities. As a result, N had limited social interactions with peers and minimal real-world communication experiences.

By the age of 4–5 years, N could only imitate a few words like *bu* (mother), *mama*, and *mau* (want), and could only understand simple instructions after 2–3 repetitions. According to a child development specialist, N does not have hearing impairments and is not on the autism spectrum. Instead, N's speech delay was caused by excessive screen exposure during early childhood, which disrupted the development of language-related brain functions. N is currently undergoing sensory integration and speech therapy to stimulate language development.

At school, N struggles to concentrate and tends to engage only in activities they enjoy, such as building with blocks or playing with sensory materials in the *Bahan Alam* (Natural Materials) learning center. Their interest in language-related activities, such as reading picture books, is minimal. Two other children, "A" and "Z," exhibit similar patterns, but their expressive language development is more advanced than N's.

Given these challenges, the researcher aims to enhance the expressive language skills of speech-delayed children at TK Fitrah Semesta through an interactive learning medium: the *Activity Book*. This book is expected to provide an engaging tool for speech-delayed children to develop their expressive language abilities. Beyond TK Fitrah Semesta, this study aims to create a product that can serve as an effective language development tool for children facing similar challenges.

Expressive language develops as a result of learning processes that connect linguistic symbols acquired through auditory input, enabling children to interpret facial expressions and tone of voice before comprehending word meanings (Divina et al., 2022).

METHOD
RESEARCH METHODOLOGY

The research method used in this study is Research and Development (R&D) with the ADDIE development model (Analysis, Design, Development, Implementation, and Evaluation). The product developed is an instructional media in the form of an Activity Book to enhance the expressive language skills of children with speech delay. The research approach employed is quantitative. In the product development process, the quantitative approach is measured using a Likert scale based on questionnaires or instruments designed by the researcher.

Development Model Steps
Analysis

At this stage, the researcher collects data and analyzes the issues related to the instructional media used in the field to address existing problems. These problems arise because the current learning media need adjustments to effectively support the learning process and to ensure that the instructional media developed can be used by classroom teachers. The analysis includes curriculum assessment and the condition of the students while also considering the characteristics of the children under study. A literature review and field studies are conducted to ensure that the developed product aligns with the learning objectives and curriculum content while also meeting the needs of children with speech delays aged 4 to 5 years.

Design

At this stage, the researcher creates a prototype or initial design of the product. In the context of instructional media development, a definition phase is carried out to align the *Activity Book* with the content framework derived from curriculum analysis and material review. Additionally, the researcher simulates the use of the model and learning tools on a small scale. The design phase ensures that the *Activity Book* is structured according to the content framework from the previous definition phase. During this stage, the researcher also reviews the vocabulary that will be introduced by teachers in relation to the learning themes and studies TFP (Term, Fact, Principle) from the lessons to ensure that the book design meets the needs of children with speech delays.

Development

As a continuation of the previous stage, the development phase builds upon the design stage to facilitate the creation of the final product. This phase generates analytical materials and determines the supporting components that make the product ready for use. The researcher consults with relevant experts to ensure that the product development process is effective. Once the product is completed, it undergoes validation by several experts through a questionnaire designed by the researcher. The questionnaire is distributed to experts to assess the feasibility of the instructional media product. The

feedback and suggestions provided by these experts serve as a reference for revising the product before its implementation. Additionally, a small-scale feasibility test is conducted involving three children with speech delays who are not part of the main research subject.

Implementation

The validated product is then tested on participants during the implementation phase. The researcher facilitates the trial process by preparing the students, introducing the product, assessing their interest in reading, and allowing them to explore the book. The trial is designed to be directly related to the activities taught in the book. After the trial is completed, the researcher asks several follow-up questions. Unlike the initial small-scale trial, the implementation phase involves a broader group of participants, extending beyond a single school.

Evaluation

To facilitate early reading activities, the *Activity Book* is used by participants to assess its feasibility. The evaluation involves questionnaires and interviews with participants, which are analyzed to form a comprehensive report.

Before the *Activity Book* is tested in the study, the researcher verifies the design. According to Sugiyono, validation is defined as a rational assessment of whether the design is considered effective. Several experts—including subject matter experts, language experts, and media experts—are involved in this validation process. The initial product undergoes a justification test through consultations with experts before being formally evaluated by them.

The data collected from the participant-filled questionnaires serve as the source for quantitative data analysis. The goal is to obtain insights into the development of the *Activity Book* as an instructional medium. The Likert scale is used to process the questionnaire responses to determine how effectively the *Activity Book* has been developed. The following table presents the interpretation of Likert scale scores:

Table 3.9: Likert Scale Score Interpretation Criteria (Sugiyono, 2010)

Score	Achievement Level	Interpretation
5	81% - 100%	Very Good (Highly Feasible for Testing)
4	61% - 80%	Good (Feasible for Testing)
3	41% - 60%	Fair (Moderately Feasible for Testing)
2	21% - 40%	Poor (Less Feasible for Testing)
1	0% - 20%	Very Poor (Not Feasible for Testing)

To determine the percentage of assessment based on questionnaire responses, the following formula (Riduwan, 2012) is used:

Description:
- ρ = Percentage or assessment score
- F = Frequency being calculated for percentage/response score
- N = Total frequency or maximum score

$$\rho = \frac{f}{N} \times 100\%$$

Model Development

The development and research were conducted on children aged 4-5 years with speech delay at Fitrah Semesta Kindergarten, Bekasi, West Java. The research method used in this study is Research and Development (R&D) with the ADDIE development model (Analysis, Design, Development, Implementation, Evaluation). The product developed is an activity book as a teaching medium to improve the expressive language skills of children with speech delay.

Based on the development research conducted, the following results were obtained:

Needs Analysis Results (Analysis)

After interviewing the accompanying teacher of student N in TK A class, the researcher found the following:

1. Student N rarely participates in book reading activities as an initial learning activity because they are not interested in books with many words.
2. The thematic vocabulary of student N is very limited.
3. Student N enjoys interactive and colorful activities.
4. Student N shows little interest in the literacy corner provided by the teacher.
5. Student N is easily distracted and has difficulty focusing for long periods.

At this stage, the researcher reviewed relevant literature and field studies to address the identified issues. The findings were then used as considerations in product development.

Design

The next stage is the design phase, where the researcher designed the teaching media model to be developed.

Model Design

The model design outlines the overall content of the book, linked to the ongoing learning theme. The design serves as a guide for creating the teaching media and facilitates the development process.

Material Compilation

The activity book material was compiled based on the thematic web created by the classroom teacher and the vocabulary goals for TK A students, particularly student N. The material focuses on cognitive development but emphasizes language development. The vocabulary introduced in the book is related to the ongoing theme, "Animals." The selection of animal names considers familiar animals for student N, along with related aspects such as habitats, diets, and body parts. The material was typed using the Fredoka font, size 64-88, and designed using Canva for Education.

Animation, Cover, Background, and Layout Design

Animations were used to attract attention, sourced from Canva for Education. The cover, background, and layout were also designed using Canva for Education in A5 landscape format to facilitate interaction with the activity book.

Validation Instrument for Teaching Media Feasibility

At this stage, the validation instrument for the teaching media feasibility was also prepared. The validation questionnaire used a Likert scale of 1-5. The assessment focused on material, language, and design aspects of the teaching media to improve the expressive language skills of children aged 4-5 with speech delay. The material validator was Mr. Ade Chairil Anwar, M.Pd.I, an assessor for the National Accreditation Board for Early Childhood and Basic Education (BAN PDM) in West Java. The language validator was Dr. Juju Saepudin, S.H.I., M.Ag, a researcher in the field of Religious Education and Culture at the National Research and Innovation Agency. The media validator was Mr. Muchamad Reza Mulyana, SE., M.Kom, Director of PT. Istiqom Anfa Global.

Development

At this stage, the product was realized through the creation of an activity book for children aged 4-5 with speech delay. The book consists of two volumes: "Wild Animals" and "Domestic Animals," each containing 15 pages. The teaching media was created using Canva for Education.

Model Feasibility

Expert Validation

Experts evaluated the activity book through the provided questionnaire. They offered suggestions for improvement and revisions. The activity book was validated by three experts: a material expert, a language development expert, and a media expert.

- **Material Expert**: The overall score was 82.2%. The material expert concluded that the activity book is highly suitable for use with revisions based on provided notes and suggestions.
- **Language Expert**: The overall score was 74.5%. The language expert concluded that the activity book is suitable for trial with improvements based on suggestions.

  Media Expert: The overall score was 82%. The media expert concluded that the activity book is highly suitable for trial with revisions based on suggestions.

FINDING

Student Response Assessment

After the activity book was deemed feasible, it was tested to observe student responses. The assessment involved three students with speech delay.

Table 4.9 Student Response Data

No	Student Name	Statement				
		P1	P2	P3	P4	P5
1	AY	5	4	4	5	5
2	KN	4	5	5	4	5
3	ZR	4	5	4	5	4
Jumlah		13	14	13	14	14
Overall Average		4,3	4,6	4,3	4,6	4,6
Percentage		86,7%	93,3%	86,7%	93,3%	93,3%

Key:
- Statement 1: Learning vocabulary becomes easier with this activity book.
- Statement 2: The text in this activity book is easy to read.
- Statement 3: Interested in the appearance of this activity book.
- Statement 4: Enjoy using this activity book.
- Statement 5: More motivated to learn vocabulary with this activity book.

Table 4.10 Student Response Results

Statement	Average	Percentage	Feasibility
Learning vocabulary becomes easier with this activity book	4,3	86,7%	Highly Suitable
The text in this activity book is easy to read	4,6	93,5%	Highly Suitable
Interested in the appearance of this activity book	4,3	86,7%	Highly Suitable

Enjoy using this activity book	4,6	93,5%	Highly Suitable
More motivated to learn vocabulary with this activity book.	4,6	93,5%	Highly Suitable
Overall Average	4,48	90,78%	Highly Suitable

DISCUSSION

Development of the Activity Book Teaching Media

The development of this teaching media used the Research & Development (R&D) method with the ADDIE model, consisting of Analysis, Design, Development, Implementation, and Evaluation stages.

- Analysis Stage: The researcher collected data and analyzed issues with the teaching media used in the field through interviews with kindergarten teachers and observations. The analysis focused on the expressive language skills of the children.
- Design Stage: The researcher designed the product, determining the goals and skills to be achieved by students through the activity book. The design included selecting vocabulary, font types and sizes, paper types, images, and layout.
- Development Stage: The activity book was developed based on the design, incorporating interactive and sensory elements to engage children. The book was validated by material, language, and media experts.
- Implementation Stage: The validated product was tested on students to observe their responses.
- Evaluation Stage: The activity book was assessed for feasibility and effectiveness based on expert validation and student responses.

Feasibility of the Activity Book Teaching Media

- Material Feasibility: Scored 82.2%, categorized as highly suitable.
- Language Feasibility: Scored 74.5%, categorized as suitable.
- Media Feasibility: Scored 82%, categorized as highly suitablez

Student Response to the Activity Book

Three students with speech delay responded positively to the activity book, with an overall average score of 90.78%, indicating that the book is highly suitable for improving the expressive language skills of children with speech delay.

CONCLUSION

Based on the problem formulation, objectives, results, and discussion of the research on the development of an activity book as a learning medium to improve expressive language skills in children with speech delay, the following conclusions can be drawn that the activity book was developed to enhance expressive language skills in

children with speech delay due to the lack of engaging learning media that capture their interest and help improve their language abilities. Limited vocabulary in children with speech delay is caused by restricted word acquisition related to specific themes, which is a crucial aspect of expressive language development. Therefore, the development of this activity book is expected to improve expressive language skills in children with speech delay caused by excessive screen exposure from gadgets, laptops, and TVs by stimulating vocabulary acquisition related to various themes. Children with speech delay often struggle to stay focused while listening to books with too much text and lacking interactivity. Thus, an activity book is considered suitable to help them stay engaged and improve their expressive language skills. The activity book was developed using the ADDIE model, reaching up to the third stage—development—due to time and budget constraints.

- The first stage, analysis, identified the problem of insufficient learning media to improve expressive language skills in children with speech delay. At this stage, the researcher observed the condition of these children, noting the need for an interactive language development tool that involves activities to prevent boredom.
- The second stage, design, focused on structuring the activity book's content, layout, and theme selection according to the characteristics of children with speech delay. During this phase, an instrument to assess the feasibility of the developed learning media was also prepared.
- The third stage, development, involved creating the activity book using Canva for Education and images sourced from Pinterest. At this stage, product evaluation was conducted by expert judgment through a questionnaire to assess feasibility. The evaluation involved subject matter experts, language experts, and media experts. A small group trial was also conducted with three children with speech delay (outside the main research subjects) to analyze their response to the developed product.

The feasibility test results were as follows:

- The material expert evaluation scored 82.2% in the "highly feasible" category.
- The language expert evaluation scored 74.5% in the "highly feasible" category.
- The media expert evaluation scored 82% in the "highly feasible" category.

The children's response to the activity book scored 90.78%, falling into the "highly feasible" category. The activity book was designed in A5 landscape format, consisting of 15 main pages and 6 supporting activity pages. The book structure includes a cover page, usage instructions, and activity content, all bound using a 3-ring binder for easy page removal and reorganization.

IMPLICATIONS AND RECOMMENDATIONS

Based on the findings of this research, the development of an activity book as a learning medium has a positive impact on improving expressive language skills in children with speech delay. This suggests that the activity book can serve as an alternative to support expressive language development in children with speech delay.

From the research findings and discussions, the following recommendations can be made for further product development:

1. For future researchers: Since improving expressive language skills in children with speech delay remains a significant concern, further research should explore various causes of speech delay and develop diverse models and formats of learning media tailored to specific needs.
2. For users (teachers, parents, therapists): The activity book can be used as a supportive tool to enhance expressive language skills in children with speech delay.

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