Indonesian Journal of Early Childhood Educational Research, 5(1) - June 2026, 146-161

Indonesian Journal of Early Childhood Educational Research

ISSN : 2963-6760 (Online)
ISSN : 2962-1364 (Print)

Development of Animated Series-Based Learning Media to Stimulate Oral Expression Skills in Children Aged 5–6 Years

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Received: April 19, 2026	Revised: April 25, 2026	Accepted: April 29, 2026	Online: May 25, 2026

ABSTRACT
The development of oral expression skills in early childhood requires engaging and developmentally appropriate learning media that can stimulate children's ability to communicate ideas, thoughts, and experiences effectively. This study aims to develop animated series-based learning media to stimulate the oral expression skills of children aged 5–6 years and to examine its feasibility and effectiveness. This research employed a Research and Development approach using the 4D model, including define, design, develop, and disseminate stages. Data were collected through needs analysis, expert validation, observation, questionnaires, and field trials. The results of the needs analysis indicate that teachers require innovative and interactive media to support children's language development, particularly in oral expression. The developed media was validated by experts and categorized as valid with minor revisions. User responses in both small- and large-scale trials show that the media is highly feasible and effective in classroom implementation. Furthermore, the effectiveness test reveals an improvement in children's oral expression skills, including increased speaking confidence, ability to retell stories sequentially, use of varied vocabulary, and clearer articulation. These findings indicate that animated series-based learning media is effective as an innovative learning tool that enhances children's oral expression skills and supports language development in early childhood education.

Keywords: *Animated Learning Media, Early Childhood, Learning Media Development, Oral Expression Skills, R&D Model*

Journal Homepage https://ejournaluinmybsk.ecampus.id/index.php/ijecer/index

How to cite: Jusnidar, A. S., Saman, A., Amal, A., Herlina, H., & Hasmawati, H. (2026). Development of Animated Series-Based Learning Media to Stimulate Oral Expression Skills in Children Aged 5–6 Years. *Indonesian Journal of Early Childhood Educational Research (IJECER), 5(1),* 146-161. https://doi.org/10.31958/ijecer.v5i1.16835
Published by: Universitas Islam Negeri Mahmud Yunus Batusangkar, Indonesia

INTRODUCTION

Early childhood education plays a crucial role in shaping children's holistic development, including cognitive, social, emotional, and language aspects (Puji & Hakobyan, 2025; Rusady et al., 2025; Wita & Villanueva, 2025; Wulandari et al., 2025). The role of Early Childhood Education (PAUD) is highly critical in laying the foundation for children's development at the early stages of life (Hasmawaty et al., 2024). This stage is widely recognized as a foundational period because early experiences significantly influence future learning and development (Aliyudin & Alvionita, 2025; Mualem et al., 2024). Moreover, early childhood is a sensitive period for shaping personality, thinking skills, intelligence, independence, and social interaction abilities (Hijriah et al., 2025). Children aged 5–6 years experience rapid development, particularly in their ability to interact, communicate, and understand their environment (Chang et al., 2023; Clemente-Suárez et al., 2024). Therefore,

learning stimulation at this stage must be developmentally appropriate and meaningful. Educational practices in early childhood settings should focus on optimizing children's potential through structured and engaging learning experiences, with language development as a central component.

Language functions as a primary tool for communication and plays an essential role in children's ability to express ideas, thoughts, and emotions (Latifah & Safrida, 2025; Pollarolo et al., 2024). In early childhood, language development is closely associated with social interaction and cognitive growth (Budiawan et al., 2025; Gualtieri & Finn, 2022). One of the most important aspects of language development is oral expression, which refers to children's ability to communicate verbally in a clear and meaningful way (Zhang et al., 2026). Oral expression involves not only speaking ability but also the organization of ideas, vocabulary usage, and clarity of articulation. In addition, expressive language significantly influences verbal IQ and determines children's future academic success, literacy, and overall performance (Husain et al., 2025). Children who develop strong oral expression skills tend to demonstrate higher confidence and more effective social interaction (Weadman et al., 2023b).

The development of oral expression skills is influenced by both internal and external factors. From a theoretical perspective, children naturally possess the capacity to acquire language, but this ability requires appropriate environmental stimulation to develop optimally (Armesto Arias et al., 2025; Weadman et al., 2023a). Children's readiness to interact with adults reflects their growing understanding of language rules and functions, where such interactions provide meaningful language experiences often acquired through imitation of adult speech patterns (Amal et al., 2023). Vygotsky emphasizes that language development occurs through social interaction, where children learn through communication with adults and peers in meaningful contexts (Armesto Arias et al., 2025; Kanaan et al., 2025; Wang et al., 2023; Weadman et al., 2023a; Zhang et al., 2026). This perspective highlights the importance of creating interactive and supportive learning environments that actively encourage children to speak and express themselves.

Bruner's theory further explains that children learn through three stages of representation: enactive, iconic, and symbolic (Jinzhi & Xuejun, 2024). Children aged 5–6 years are generally in the iconic stage, where they rely heavily on visual representations to understand concepts (Grice & Jones, 2024; Kampeza & Delserieys Pedregosa, 2024; Munn, 2021). This indicates that visual learning media can effectively support children's transition toward symbolic representation, including verbal expression. Media such as picture series have been shown to facilitate understanding, strengthen memory, and connect learning materials with real-life contexts, thereby increasing children's interest in learning (Asti & Saodi, 2021). Therefore, the integration of visual and interactive learning media becomes highly relevant in stimulating oral language skills (Kaderia et al., 2025). Learning experiences that incorporate visual elements can enhance comprehension and encourage more active communication (Lestari et al., 2024).

However, field observations indicate that children's oral expression skills are not yet optimally developed. Many children remain passive during learning activities, hesitate when speaking, and provide limited verbal responses. Some also experience difficulty in organizing

ideas into coherent sentences. This condition reflects a gap between expected developmental outcomes and actual classroom practices. Ideally, children at this stage should be able to express ideas more confidently and coherently. One contributing factor to this issue is the limited use of varied and engaging learning media in early childhood classrooms. Learning media that are attractive and appropriate for children are essential to support active participation in learning (Herlina et al., 2025). In practice, teachers often rely on conventional approaches such as storytelling or printed materials, which may not fully stimulate children's engagement. These approaches tend to be less interactive and may not accommodate diverse learning styles. As a result, children have fewer opportunities to actively participate in verbal communication. This situation underscores the need to develop innovative learning media that promote active and meaningful learning experiences.

Previous studies have demonstrated that picture series media can support children's ability to understand sequences and develop narrative skills (Song, 2026; Yulia et al., 2025). Additionally, audio-visual media has been proven to enhance children's expressive language skills and engagement in learning activities (Andina et al., 2025; Gusmita et al., 2025; Lestari & Widyasari, 2023; Primastuty & Asmawulan, 2024). Animation-based media, in particular, can attract children's attention and increase motivation due to its dynamic and interactive characteristics (Nurlaila et al., 2025; Utaminingsih et al., 2024). These findings suggest that the integration of visual and auditory elements can effectively support language development.

Despite these advantages, the integration of visual and animation-based media in early childhood education remains limited. Most existing learning media are still presented in static formats and lack interactive features that can fully engage children. This limitation reveals a research gap in developing learning media that combine picture sequences with animation to enhance oral expression skills. There is a clear need for innovative approaches that not only present information but also actively involve children in the learning process. Addressing this gap is essential for improving the effectiveness of language learning. Therefore, this study proposes the development of animated series-based learning media designed to stimulate children's oral expression skills. This media integrates sequential images with animation, sound, and storytelling elements to create engaging and meaningful learning experiences. The novelty of this study lies in combining picture series and animation within a structured framework tailored to early childhood characteristics, providing a more effective approach to fostering verbal communication skills.

Furthermore, this study responds to the need for practical and innovative learning tools that support teachers in facilitating language development. The use of interactive media is expected to enhance children's participation, confidence, and ability to express ideas verbally. This approach aligns with current educational trends that emphasize active learning and the integration of technology in early childhood education (Coorey, 2016; Keengwe & Onchwari, 2009; Nicol et al., 2018). Therefore, the objective of this study is to develop animated series-based learning media and examine its validity, practicality, and effectiveness in improving oral expression skills in children aged 5–6 years.

RESEARCH METHODOLOGY

Research Design

This study employed a Research and Development (R&D) approach aimed at producing and testing an educational product in the form of animated series-based learning media. The R&D method was chosen because it allows the integration of theoretical foundations with practical application in developing innovative learning media. This approach not only focuses on product development but also evaluates its validity, practicality, and effectiveness through systematic procedures. The development process followed the 4D model, which consists of define, design, develop, and disseminate stages. This model was selected because it provides a structured and sequential framework suitable for educational media development. Through this approach, the product is continuously refined based on expert judgment and field testing results.

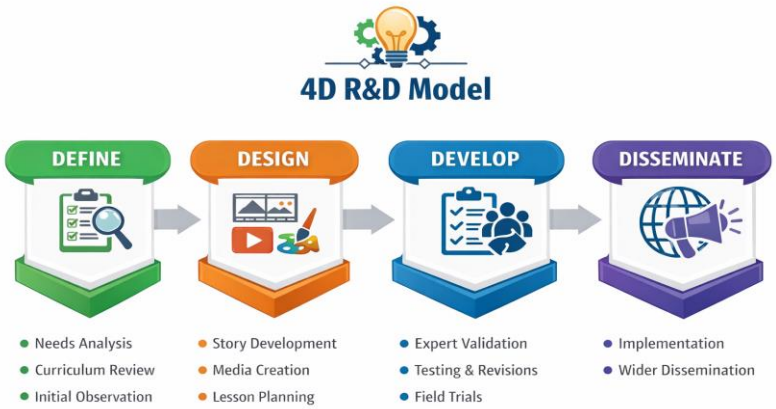

Figure 1. The 4D Research and Development (R&D) Model Process

Research Setting and Participants

The research was conducted in an early childhood education setting, specifically involving children aged 5–6 years in a kindergarten environment. The selection of the research site was based on the need for innovative learning media to support children's oral expression skills and the availability of supportive learning conditions. The participants included children as the primary subjects and teachers as facilitators during the implementation of the media. A purposive sampling technique was used to ensure that participants met the criteria relevant to the research objectives. Teachers were also involved in providing feedback regarding the practicality of the developed media. This combination of participants allowed for comprehensive evaluation from both user and facilitator perspectives.

Development Procedure

The development procedure followed the 4D model consisting of four stages. The define stage involved identifying problems, analyzing children's needs, and reviewing curriculum standards related to language development . The design stage included planning the media structure, developing storylines in the form of picture series, and integrating animation elements such as audio and motion. The develop stage focused on expert validation and product revision, followed by small-scale and large-scale trials to assess feasibility and effectiveness. The disseminate stage involved introducing the final product in a limited scope and preparing it for broader implementation. Each stage was carried out systematically to ensure that the developed media met educational standards and user needs.

Data Collection Techniques

Data were collected using multiple techniques to ensure the validity and comprehensiveness of the findings. Observation was conducted to assess children's oral expression skills during learning activities. Interviews were carried out with teachers to identify initial conditions and gather feedback on the implementation process. Questionnaires were used to obtain validation data from experts and responses from teachers regarding the practicality of the media. Documentation, including photos and activity records, was used to support the data obtained during the research process. The combination of these techniques allowed for triangulation of data and increased the reliability of the results.

Research Instruments

The instruments used in this study included validation sheets, observation sheets, and assessment rubrics for measuring children's oral expression skills. Validation sheets were used by experts to assess the feasibility of the media in terms of content, design, and usability. Observation sheets were used to record children's participation and performance during learning activities. The assessment rubric included indicators such as the ability to express ideas, retell stories, use appropriate vocabulary, and speak clearly. These instruments were developed based on early childhood language development standards. The use of structured instruments ensured that the data collected were measurable and aligned with the research objectives.

Data Analysis Techniques

Data analysis in this study employed both qualitative and quantitative descriptive techniques. Qualitative data obtained from observations and interviews

were analyzed through data reduction, data presentation, and conclusion drawing. Quantitative data from validation and assessment results were analyzed using percentage calculations to determine the level of validity, practicality, and effectiveness of the media. In addition, gain score analysis was used to measure improvements in children's oral expression skills before and after the intervention. This analytical approach allowed for a comprehensive evaluation of the developed product. The combination of qualitative and quantitative analysis ensured that the findings were both descriptive and measurable.

RESULTS AND DISCUSSION

Results

Needs Analysis (Define Stage)

The results of the needs analysis indicate that children aged 5–6 years still experience difficulties in expressing ideas verbally, particularly in constructing complete sentences and retelling events sequentially . Observations show that children tend to provide short responses and lack confidence when speaking in front of peers. In addition, teachers reported limited use of innovative learning media that specifically target oral expression skills. Learning activities were still dominated by conventional storytelling methods without sufficient visual or interactive support. These conditions highlight the need for the development of engaging and developmentally appropriate learning media. Therefore, animated series-based learning media was proposed as a solution to address these challenges.

Product Design (Design Stage)

Based on the needs analysis, the initial design of the animated series-based learning media was developed. The product consists of sequential visual stories presented in animation format, supported by audio narration and interactive elements. The content was designed according to early childhood characteristics, emphasizing simple language, clear storylines, and attractive visuals. Supporting components such as lesson plans (RPPH), user guides, and assessment instruments were also developed to facilitate implementation. The design process ensured that the media aligns with curriculum standards and learning objectives. The flow of the development process is illustrated in Figure 1**,** which presents the 4D R&D model used in this study.

Expert Validation (Develop Stage)

The developed product was validated by experts in early childhood education and learning media to determine its feasibility. The validation covered aspects of content suitability, media design, and usability. The results of expert validation indicate that the media is categorized as valid with minor revisions. Suggestions provided by experts included improving visual clarity, adjusting narration speed, and refining language use to better suit children's comprehension levels. After revisions were made, the product was considered ready for field testing. The validation results are presented in Table 1.

Table 1. Expert Validation Results

Aspect Evaluated	**Score (%)**	**Category**
Content Feasibility	85	Very Valid
Media Design	88	Very Valid
Language Appropriateness	83	Valid
Usability	87	Very Valid
Average	85.75	Very Valid

Table 1 shows that the developed media achieved a high level of validity across all evaluated aspects. The content feasibility scored 85%, indicating that the material is well aligned with early childhood learning objectives and is appropriate for children's developmental stages. Media design obtained the highest score (88%), suggesting that the visual and animation components are considered attractive, clear, and supportive of learning. Language appropriateness received 83%, which, although slightly lower, still falls within the valid category, implying that minor revisions were needed to better match children's comprehension levels. Usability scored 87%, reflecting that the media is easy to implement by teachers in classroom settings. Overall, the average score of 85.75% categorizes the product as "very valid," meaning it is feasible for use with only minor improvements as suggested by experts.

Story 1: Beni Wakes Up

Story 2: Beni Goes to School

Story 3: Beni Goes to the Zoo

Story 4: Alika Wakes Up

Story 5: Alika's Birthday

Figure . Series Image Media With Animation Orientation And Guidebook. Animation-Oriented Series Image Media

Practicality Test (Small and Large-Scale Trials)

The practicality of the media was tested through small-scale and large-scale trials involving teachers and children. The results indicate that the media is highly practical and easy to use in classroom settings. Teachers reported that the media helped facilitate learning activities and increased children's participation. Children showed enthusiasm and active involvement during the learning process. The use of animation and storytelling elements made the learning experience more engaging and enjoyable. The practicality results are summarized in Table 2.

Table 2. Practicality Test Results

Indicator	Percentage (%)	Category
Ease of Use	90	Very Practical
Attractiveness	92	Very Practical
Suitability for Learning	88	Very Practical
Teacher Response	91	Very Practical
Average	90.25	Very Practical

Table 2 indicates that the developed media is highly practical for classroom use, as reflected by the overall average score of 90.25%. The ease of use aspect scored 90%, suggesting that teachers can operate and integrate the media into learning activities without significant difficulty. Attractiveness obtained the highest score (92%), highlighting that the animation features and visual presentation successfully capture children's interest. Suitability for learning scored 88%, indicating that the media aligns well with instructional goals and classroom needs. Teacher response also showed a very positive result (91%), reflecting strong acceptance and satisfaction with the media. These findings confirm that the product is not only functional but also engaging and supportive of effective teaching and learning processes.

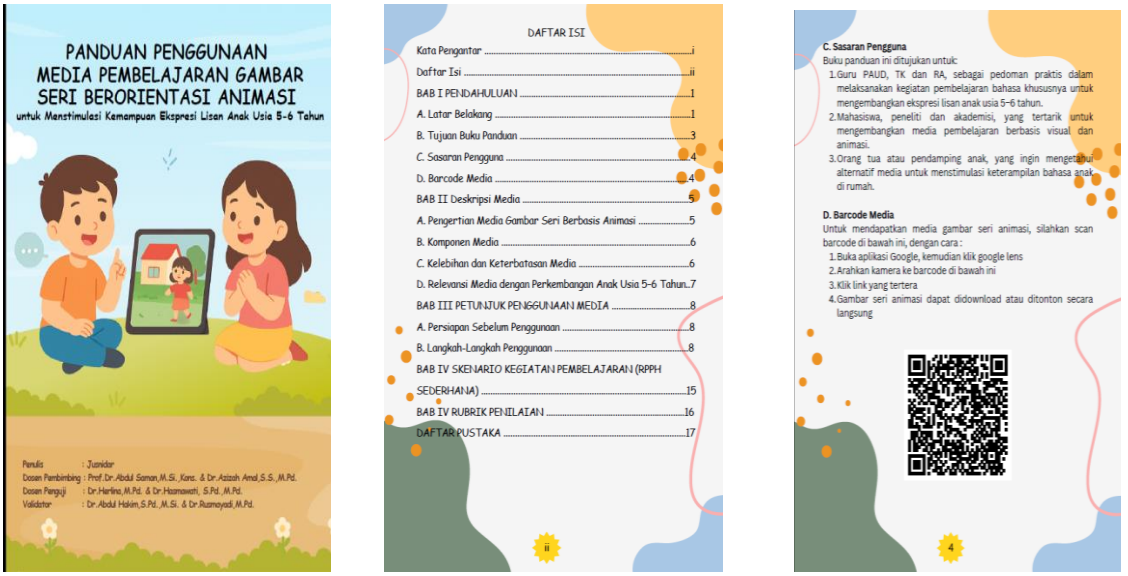

Figure 2. Guidebook for the Use of Animation-Oriented Series Image Media

Effectiveness Test

The effectiveness of the developed media was measured by comparing children's oral expression skills before and after the implementation. The results indicate a significant improvement in children's abilities, particularly in speaking confidence, vocabulary use, and ability to retell stories. The mean score increased from 55.00 in the pre-test to 82.50 in the post-test. This improvement indicates that the media effectively stimulates children's oral expression skills. The results of the effectiveness test are presented in Table 3.

Table 3. Effectiveness Test Results

Assessment Aspect	Pre-Test (%)	Post-Test (%)	Gain
Speaking Confidence	50	85	0.70
Vocabulary Use	55	80	0.62
Story Retelling Ability	60	83	0.65
Clarity of Expression	55	82	0.67
Average	55.00	82.50	0.66

Table 3 demonstrates a significant improvement in children's oral expression skills after the implementation of the media. Speaking confidence showed the highest gain (0.70), indicating that children became more willing and confident to express their ideas verbally. Vocabulary use improved with a gain of 0.62, suggesting that the media effectively enriched children's word usage. Story retelling ability also increased (gain = 0.65), reflecting improved skills in organizing and communicating events sequentially. Clarity of expression gained 0.67, indicating better articulation and coherence in children's speech. The overall average gain score of 0.66 falls within the moderate to high improvement category, confirming that the animated series-based media has a substantial positive impact on enhancing children's oral language abilities.

Final Product (Disseminate Stage)

The final product of this study is an animated series-based learning media that has been validated, revised, and tested in real classroom settings. The media integrates visual storytelling, animation, and audio elements to support children's oral expression development. The final version is accompanied by supporting materials such as lesson plans and user guides to facilitate implementation. The dissemination stage was conducted in a limited scope, focusing on introducing the product to teachers and educational practitioners. The product is expected to be used as an innovative learning tool in early childhood education settings.

Discussion

The findings of this study demonstrate that the use of animated series-based learning media contributes positively to the development of children's oral expression skills. The improvement observed in children's ability to express ideas, retell stories, and speak with greater confidence indicates that the integration of visual and audio elements creates a more engaging learning environment. This is consistent with the notion that language development in early childhood is strongly influenced by meaningful interaction and stimulation (Romeo et al., 2022; Thümmler et al., 2022). The use of animation provides contextual support that helps children understand and organize their thoughts before expressing them verbally. As a result, children become more active participants in the learning process. This finding is further strengthened by Wildawati et al. (2022), who emphasize that media combining visual elements and engaging animation can create more concrete, contextual, and enjoyable learning experiences for children.

The results of the needs analysis and field observations reveal that conventional teaching methods are less effective in stimulating oral expression skills. In many early childhood classrooms, learning still relies on teacher-centered approaches such as lectures or simple question-and-answer techniques without adequate visual support, which limits children's active participation in communication (Amal et al., 2025). The introduction of animated series media addresses this gap by offering interactive and visually rich learning experiences. Previous studies have shown that picture series media can enhance children's ability to construct narratives and understand sequences (Kanaan et al., 2025; Song, 2026). In addition, audio-visual media has been proven to increase engagement and improve expressive language skills in early childhood (Kaderia et al., 2025; Lestari & Widyasari, 2023; Primastuty & Asmawulan, 2024). The findings of this study extend these results by demonstrating that combining picture series with animation further strengthens children's participation and communication abilities.

Furthermore, the practicality results indicate that the developed media is easy to use and highly accepted by teachers and children. This suggests that the media is not only effective but also feasible for implementation in real classroom settings. The integration of structured storytelling and animation supports children in organizing ideas and expressing them sequentially. This aligns with the concept that children in the iconic stage benefit from visual representations in learning (Grice & Jones, 2024; Kampeza & Delserieys Pedregosa, 2024). In line with this, storytelling-based approaches are also known to create a supportive and less intimidating learning atmosphere, enabling children to better understand the material

and express themselves more confidently (Herlina et al., 2024). The media also encourages active learning by involving children in interactive activities, which enhances both cognitive and language development.

In addition, the effectiveness results show a significant improvement in children's oral expression skills, as reflected in the increased post-test scores and gain values. This indicates that the developed media successfully addresses the initial problem identified in the needs analysis. The combination of visual, auditory, and interactive elements provides a comprehensive learning experience that supports language development. Moreover, the integration of digital-based media reflects the growing importance of technology in early childhood education, where digital tools facilitate efficient access to information and enrich learning experiences (Lismayani et al., 2024). These findings are also in line with current educational trends that emphasize the use of technology and interactive media in early childhood learning environments (Maulana et al., 2025; Sari et al., 2026; Yulia et al., 2025). Therefore, animated series-based learning media can be considered an effective alternative for enhancing children's oral expression skills.

CONCLUSION

This study concludes that the development of animated series-based learning media is valid, practical, and effective in stimulating the oral expression skills of children aged 5–6 years. The media successfully improves children's ability to express ideas, retell stories, use appropriate vocabulary, and speak with greater confidence. The integration of visual storytelling, animation, and audio elements creates an engaging and meaningful learning experience that supports language development. In addition, the positive responses from teachers indicate that the media is feasible for classroom implementation and can support interactive learning. Overall, this media can be used as an innovative learning tool to enhance early childhood language development, particularly in oral expression skills.

ACKNOWLEDGEMENT

The authors would like to express their sincere gratitude to the school and teachers who provided support and cooperation during the implementation of this research. Appreciation is also extended to the children who participated actively in the study and contributed to the success of the implementation process. The authors also acknowledge the experts who provided valuable feedback during the validation stage. Finally, thanks are given to all parties who supported this research, both directly and indirectly, throughout its completion..

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