



Multimedia-Based Storytelling Learning Media Effectivity For Early Childhood's Expressive Language Skill Development

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Abstract

The objective of this study is to evaluate the effectiveness of multimedia-based storytelling learning media in improving early childhood expressive language skills within the context of Early Childhood. This study used a quantitative approach, with pre-experimental research method using a one-group, pre- and post-test design. There were 50 children in the population, and there were 34 children in the sample. Data collection using observation, questionnaires and documentation. Using paired-sample t-tests to test hypotheses. The results indicated that H_a was approved, indicating that there was a 19.27% increase in the children's expressive language skill. Before and after treatment, there was an average difference in the expressive language capabilities of children. This demonstrates that multimedia-based learning media is effective at enhancing the expressive language skills of children. The study concludes that multimedia-based storytelling learning media is an effective tool for improving expressive language skills in early childhood.

Keywords: *expressive language; early childhood; learning media; multimedia-based storytelling*

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Introduction

Every child has a unique personality that requires special care, particularly between the ages of 0 and 6, which are considered the golden years for early childhood development, notably in the areas of language, communication, and social-emotional development (Aminah et al., 2020; Astuti & Nurhayati, 2022; Musa et al., 2020; Octaviani et al., 2023; Patimah & Nurhayati, 2020; Rachmah et al., 2021). Language enables humans to communicate and convey their thoughts and emotions, and plays a crucial role in human interactions. Therefore, early stimulation of language development is required (Alam & Lestari, 2020; Anggalia & Karmila, 2014; Kartika et al., 2020). Multiple studies have demonstrated that the ability to acquire literacy skills in early childhood is crucial for future success and must be fostered from an early age (Aminah et al., 2020; Astuti & Nurhayati, 2022; Doludea & Nuraeni, 2018; Nurhayati, Hidayat, et al., 2023; Susanty & Mahyuddin, 2022; Tantiana Ngura et al., 2018).

The Early childhood learning principles include learning through play, child development-oriented, child-friendly, child-centered, active learning, oriented toward the development of character values and life skills, supported by a conducive environment, oriented toward democratic learning, and the utilization of learning media, learning resources, and resource persons (Kartika et al., 2020; Nurhayati, Qudsi, et al., 2023; Sadiyah et al., 2021;

Yuliya et al., 2020). Storytelling teaching media in early infancy have a positive effect on the growth of imagination, listening, and overall indicators of expressive language skills (Yus & Saragih, 2022). Children with expressive language skills are able to articulate desires, feelings, and opinions using simple sentences when communicating with other children or adults, to express feelings about ideas using appropriate word choices when communicating, and to retell the plot of a story using simple language.

In recent years, multimedia-based learning media has become increasingly popular in early childhood education (Ghofur & Nurhayati, 2023; Khairunnisa & Ain, 2022; Nazelliana, 2019; Park et al., 2019; Rasmani, 2022, 2023; Setyawan, 2015; Vagg et al., 2020). Multimedia-based learning media combines different types of media, including text, audio, images, and video, to create an engaging and interactive learning experience for young children (Arnada, 2018; Nazelliana, 2019; Novitasari, 2019; Wayan Aryani & Pramunditya Ambara, 2021; Yuniarni et al., 2019). The current state of early childhood is that it lacks the emotional readiness to acquire the habit of learning from aspects of moral, cognitive, language, social, and artistic religious values; consequently, children's development has not met expectations, particularly in expressive language aspects such as telling stories in front of the class or revealing events in morning journals (Hariyanti, 2019; Husna & Eliza, 2021a).

Due to the fact that children at this age are still in the concrete operational stage of cognitive development, the role of media in learning, particularly in early childhood education, is growing in importance. When presenting information to young children, a teacher must use media to ensure that the information is effectively received and assimilated by the students, resulting in behavioral changes, such as improvements in knowledge, attitudes, and skills. Media can enhance learning outcomes. In educational activities, media can refer to anything used to convey messages or lesson content, stimulate children's minds, emotions, attention, and abilities, and encourage the learning process through instructor stimulation (Izzah et al., 2020; Kartinih et al., 2018). Media functions as a means of transmitting messages from sender to receiver, overcoming barriers of distance, space, and time, and allowing the message to be received and interpreted by the recipient using one or all of their senses. According to prior research, in the context of education, media refers to the instruments used to optimize children's learning outcomes and facilitate learning activities. The use of audio-visual media is highly effective for preschool-aged children's expressive language development (Nurlilawaty et al., 2018; Yus & Saragih, 2022). Using animated videos as a learning instrument can improve language skills, especially when the videos are tailored to the current learning topic. Children are more likely to remain intrigued and engaged in learning when it is presented in a fun and enjoyable manner, as opposed to traditional methods such as textbooks and homework. As demonstrated by prior research, the use of digital animation as a teaching instrument can pique students' interest and make learning more active, creative, efficient, and enjoyable (Amelia et al., 2020; Arnada, 2018; Komang Ayu & Surya Manuaba, 2021; Munawaroh et al., 2022; Nizrina, 2022; Nurhayati, 2021; Rasmani, 2022, 2023; Susanty & Mahyuddin, 2022; Trinaldi, 2022; Virgianti, 2020; Wayan Aryani & Pramunditya Ambara, 2021; Wildawati, 2022).

Based on an interview with one of the teachers at KB Al Ghofur Sumedang, Mrs. Elis, on February 4, 2023, it was found that teachers still use limited media, namely simple media in the form of letter cards and lettered pictures, to stimulate children's expressive language development, where the media is less varied and interesting for children and involves less child interaction. Even in the golden age of children, the absorption of information is very high, so parents and teachers must be able to provide as much new knowledge and experience as possible to them. Teachers, as facilitators when children learn in the school environment, are expected to be more active, creative, and innovative in determining the use of learning methods and media to stimulate child development, especially children's expressive language skills. The media used should be in accordance with the stages of child development so that

they can stimulate their abilities and potentials according to expectations, stages, and standards at their age.

From the child's developmental record, some of them have difficulties in vocabulary development. This is evident from the fact that the vocabulary owned by some children only ranges from 400 to 700 words, even though at the age of 3–4 years, the vocabulary owned is already thousands in number. When the child is 3 years old, his expressive language skills must continue to increase every day. Children in such institutions have not found a way to skillfully express their ideas, thoughts, and needs. They are shy about expressing themselves; there are still many doubts, so they just imitate what the teacher does and says.

The first step that can be taken to develop children's expressive language skills is to maximize their stimulation using interesting learning media at school. Learning media has benefits in attracting students' attention and motivation for learning activities, making it easier for students to understand information related to learning, and helping to make learning methods more varied. One of the interesting and appropriate media to stimulate children's language development is multimedia-based storytelling. This media is included in the category of audio-visual teaching media. Audio-visual media has appeal, is able to clarify ideas, and can illustrate facts, making it easy for people to understand. The characteristics of children in early childhood who think symbolically (in the form of images and speech) make this medium effective to use.

Based on the results of comparative literature studies and field tests, researchers concluded that media that is able to answer the challenges of technological development are needed. It is necessary to develop learning media that utilize technological developments that are conceptualized more interestingly and are full of fantasy and interaction. Learning media have an important role in conveying learning messages.

Based on this background, researchers develop digital learning media for introducing family medicinal plants to early childhood by utilizing multimedia-based storytelling teaching media using PowerPoint applications. The material on the application is focused on children aged 5–6 years. This media contains educational materials on family medicinal plants that children often encounter at home, and while telling about family medicinal plants, teachers can also introduce letters to early childhood. By using this medium, teachers can easily stimulate children's expressive language skills by giving them space to tell stories about the images they see and respond to questions asked by the teacher. This multimedia-based storytelling medium is one of the innovations in the development of new learning media because the use of PowerPoint media that integrates audio-visual in learning and research is also still rare due to limited technological infrastructure and the digital competence of teachers. This medium is still being developed and is currently only available in one theme. In the research conducted, this multimedia-based teaching medium uses several interesting audio variations and can further stimulate children to be comfortable telling stories. With the above background, researchers will analyze the effectiveness of multimedia-based storytelling media using PowerPoint applications to understand the influence of these media on improving the development of expressive language skills in children aged 5–6 years. The findings from this research can provide insights into the most effective multimedia-based tools for enhancing expressive language development. This knowledge can inform the development of language intervention programs that utilize multimedia technology to optimize learning outcomes. Ultimately, this research can have a significant impact on the lives of children with language delays by providing them with access to effective language development programs and to improve children's expressive language development.

Methodology

The research was conducted with a quantitative approach that used a type of experimental research. The research method design is pre-experimental design type one group pretest posttest design, which uses pretest and posttest to compare conditions before

and after treatment (Sugiyono, 2019). The research design was carried out through tests before a treatment (O1) and after a treatment (O2), so that O1 and O2 could be compared to determine the effectiveness of certain treatments (X). The study population is Play Group Al Ghofur students of Sumedang Regency for the 2022/2023 school year aged 5 –6 years, totaling 50 students. The minimum number of samples in the study after being calculated by the slovin formula was 34 children. The determination of the minimum sample was carried out because it was constrained by parents' willingness regarding the involvement of children as experimental objects. Furthermore, using the cluster random sampling technique, two classes were selected as experimental classes, namely class A (17 students) and B (17 students), with a total of 34 students. The experimental class was given treatment using multimedia-based storytelling learning media using a powerpoint application. The data collection techniques are through observation, questionnaires and documentation. The research instrument includes questionnaires on the development of expressive language of children aged 5-6 years, covering indicators of child development achievement according to Permendikbud No. 146 of 2014 (understanding receptive and expressive language). Questionnaires used as instruments in research must qualify as good measuring instruments with regard to validity and reliability. Analysis of research data using inferential statistics. Meanwhile, in testing the significance of the comparison of two samples, interval or ratio data used a two-sample t-test (Sugiyono, 2015). Hypothesis testing uses the Paired Sample T-Test, because it intends to find out whether there is an average difference between two paired samples. Before the hypothesis analysis is carried out, a prerequisite test is carried out through a data normality test. Then researchers conduct an N-Gain test to determine the effectiveness of using a certain treatment in research.

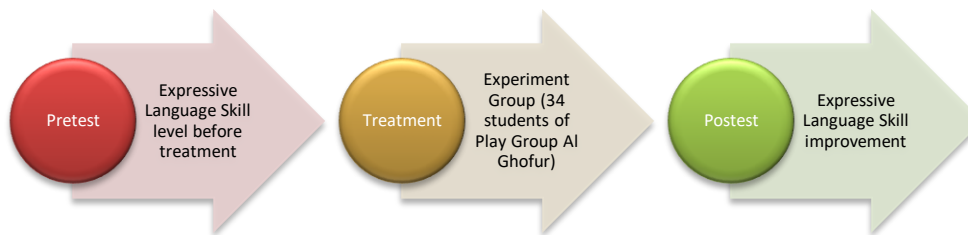


Figure 1. One Group Pretest-Posttest Research Design

Results and Discussions

The results discussed in this study explain the purpose of the study, namely, to determine the effectiveness of multimedia-based storytelling learning media in improving the expressive language skill in early childhood, especially 5-6 years. The results of statistical calculations that have been carried out after treatment are given as presented in table 1.

Table 1. Results of Descriptive Data Analysis

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Pretest	34	64	83	75.44	4.194
Posttest	34	80	110	94.71	6.008
Valid N (listwise)	34				

Table 2. Paired Sample T-Test Results

		Paired Samples Test				t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower Upper			
Pair 1	Pretest - Posttes	-19.265	2.136	.366	-20.010 -18.519	-52.580	33	.000

Table 3. Results of the Mean Hypothesis Test

		Paired Samples Statistics			Std. Error Mean
		Mean	N	Std. Deviation	
Pair 1	Pretest	75.44	34	4.194	.719
	Posttest	94.71	34	6.008	1.030

The data in **table 1** shows that the smallest pretest result is 64 and the smallest posttest result is 80. The largest value (maximum) of the pretest result is 83 and the largest value of the posttest result is 110. Based on the results of statistical tests in the study, the average score of children's expressive language skills on the posttest was greater than on the pretest. **Table 2** shows obtained t count = 52.580. Known value t table with df = 33 is 2.03452. Based on these results, it is known that the value of t is calculated > t table, which is 52.580 > 2.03452, with a significance value of 0.000, so that HO is rejected, and Ha is accepted. This means that after being given multimedia-based storytelling learning media, there is a significant improvement in children's expressive language skills. There is a significant difference seen from the magnitude of the significant value of 2 tailed 0.000 < 0.05. In addition, it can be seen from the difference in average scores obtained before and after the implementation of treatment by using multimedia-based storytelling learning media. Based on **table 3**, the improvement of children's expressive language skills based on the application of multimedia-based storytelling learning media with respondents (N) 34 children is known to have an average score (mean) pretest is 75.44 and posttest is 94.71. This means that there was an increase of 19.27 in the ability of children's expressive language skills before and after being given multimedia-based storytelling learning media. Furthermore, from the results of N-gain testing carried out to determine the effectiveness of using a certain treatment in research. From the calculation results, it is known that the value of N - gain from this study is 0.34. By looking at the table of N-gain level criteria, it can be concluded that multimedia-based storytelling learning media is effective in improving children's expressive language skills with moderate effectiveness criteria.



Figure 2. Multimedia-based Story telling Learning Media

The research findings presented in the given text have focused on the influence of multimedia-based storytelling learning media on the expressive language skill development of early childhood. This is in line with Yus and Saragih (2022) which found that audiovisual media had a significant effect on expressive language skill. The posttest results also showed that the experimental group had a higher mean score on the expressive language pretest. The researchers concluded that the multimedia-based storytelling learning media had a greater impact on improving expressive language in early childhood.

Expressive language is crucial to a child's healthy development because it is a protective factor against aggressive behaviour and plays a decisive role in verbal IQ and subsequent performance, academic success, and literacy (Aisyah et al., 2022; Husna & Eliza, 2021b; Laborda et al., 2023; Senar et al., 2023; Takeyama et al., 2022; Thomas et al., 2022; Vermeij et al., 2023; Veryawan et al., 2021; Yuniati & Rohmadheny, 2020). On the other hand, expressive language refers to a child's ability to convey himself based on his observations, emotions, or feelings. Listening, speaking, reading, and writing are the language abilities in ascending order of acquisition, if sorted by acquisition. Listening and reading are regarded as receptive language skills, whereas speaking and writing are regarded as expressive language skills. Expressive language is the ability to articulate sounds or words to express and communicate ideas, thoughts, and emotions. When children "learn" language through adult interaction, they "learn" both the redaction and structure of words and sentences. Only through interaction, discourse, and dialogue with adults can the pattern of children's language development be determined. This activity can assist children in acquiring language models, expanding comprehension, incorporating expressive vocabulary, and motivating interaction with others or socialization. Language development is optimal when children engage in genuine conversation or dialogue as conversation partners. Language is a vital instrument in children's lives, so it must be fostered in students as early as kindergarten (Ghofur & Nurhayati, 2023; Nasution et al., 2022; Thomas et al., 2022). Children's expressive language and communication skills are crucial. Expressive language is closely related to communication skill. Children's social and psychological development is significantly influenced by their ability to communicate (Hurlock, 1978). First, the requirements and desires of children who are skilled communicators will be met. Children can express their needs and desires to others. Second, children who are skilled communicators attract the attention of their peers. This is essential because, fundamentally, children enjoy being the center of attention around them. Thirdly, children who are proficient communicators can cultivate relationships with others and demonstrate leadership. The four children who are proficient orators will develop sound content and linguistic discernment. Fifthly, children who are proficient communicators will have self-assurance and a favorable self-evaluation. Sixth, children who are proficient communicators typically have superior academic abilities. Seventh, children who are excellent communicators are more capable of making positive remarks. Eighth, children who are skilled communicators are often adept at influencing and persuading their peers. This bolsters the child's leadership potential.

On the basis of an analysis of research results and theories of language development, supported by pertinent researchs, the use of multimedia-based storytelling media is feasible and recommended for stimulating children's expressive language development because it can make children more exploratory and expressive in understanding and expressing language. In addition to symbols from images that help children understand real-world concepts, the letters available in the media are increasingly capable of motivating children to learn the proper pronunciation and writing of the acquired vocabulary. It has been demonstrated that the use of multimedia-based storytelling media to stimulate the development of children's expressive language skills has a moderate level of efficacy, despite showing a significant and positive improvement. One of the observed improvements in children's expressive language abilities is that they gain confidence when engaging in activities, are willing and daring to respond when questioned, are receptive to learning, and can interact effectively with their

peers. Additionally, children begin to get along with researchers and appreciate playing with multimedia-based narrative media. The growth of children's expressive language is evident in their speaking abilities and vocabulary. Monitoring a child's language development from an early age is a vitally essential task. Language is a reflection of a person's thoughts; the more eloquent and precise a person's manner of thinking, the more talent they have with language. In their investigation, Markus et al. (2017) determined that a person's vocabularies are the most essential factor. Vocabulary mastery can influence a person's language abilities and social interactions.

The success researchers have had in enhancing children's expressive language skills can be observed in the students' enthusiasm during the learning with multimedia-based storytelling instructional media. This demonstrates the learning process to enhance children's expressive language skills through multimedia-based storytelling media according to the researcher's plan, where children willingly engage in activities without external coercion or pressure. This is evidenced by the fact that children are willing to repeat learning activities with multimedia-based storytelling instructional media. This is in line with previous researchs on the efficacy of multimedia-based learning media usage in early childhood learning (Ghofur & Nurhayati, 2023; Nazelliana, 2019; Palareti, 2016; Rasmani, 2022, 2023; Yus & Saragih, 2022).

Conclusion

The study found an average 19.27% improvement in children's expressive language skills after using multimedia-based storytelling learning tools. These tools proved moderately effective, highlighting their potential for enhancing language abilities. The children showed increased confidence, understanding of medicinal plants, and active participation in activities. The multimedia storytelling tool, with its engaging audio-visual elements, offers a playful learning experience. This innovation not only aids expressive language development but also provides a versatile platform for further language growth, catering to individual child needs. It presents a simple yet impactful resource for educators, parents, and researchers.

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