

The Effect of Beatbox-Accompanied Storytelling on Receptive Language Development in Children Aged 4–5 Years

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Abstract

This study examined the effect of beatbox-accompanied storytelling on receptive language development among early childhood learners. A one-group pretest-posttest pre-experimental design was employed involving 20 children aged 4–5 years from Wadas Kelir Creative House Playgroup (KB Rumah Kreatif Wadas Kelir), Purwokerto, Central Java. Children's receptive language performance was assessed before and after participating in beatbox-integrated storytelling activities using an observation-based questionnaire. Data were analyzed through descriptive statistics, normality testing, paired-samples t-test, and regression analysis using SPSS. The findings showed a significant improvement in children's receptive language scores after the implementation of beatbox-accompanied storytelling ($p < .05$). Regression analysis indicated that the storytelling intervention contributed to receptive language outcomes, explaining 27.9% of the variance ($R^2 = .279$). These findings suggest that integrating beatboxing into storytelling creates a multisensory and interactive learning experience that supports children's attention, engagement, comprehension, and responses. This study highlights beatboxing as a creative pedagogical strategy for strengthening receptive language development in early childhood education.

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INTRODUCTION

Since the COVID-19 pandemic, there has been a dramatic increase in the number of young children experiencing delayed language development, with speech delays more than doubling among those aged twelve and under ([Schultz, 2024](#)). Early exposure to digital devices poses a high risk of speech delay. Children are becoming accustomed to using gadgets at increasingly younger ages. John Yang reported that, since the COVID-19 pandemic, the number of young children with slow language development has risen dramatically: speech delays have more than doubled (in Schultz, 2024). This trend is concerning, because this is the period when language acquisition is most rapid.

The global prevalence of speech delay in preschool-aged children ranges from 2% to 20% ([Hutrika et al., 2025](#)). In Indonesia, earlier data indicated that about 5%–10% of early childhood children experienced speech delays ([Mahmudianati et al., 2023](#)). According to the Indonesian Ministry of Health (2021), this prevalence has already reached approximately 16% among preschoolers ([Hutrika et al., 2025](#)). After the pandemic, reports show a sharp spike in cases. A large medical-record study in the U.S. found that speech-delay diagnoses rose from an average of 9.0% in 2018 to 11.8% in Q4 2021 and 16.9% in Q1 2023 ([Bartelt et al., 2023](#)). In Indonesia, practitioners now report that around 20% of children experience speech delay ([Evandio, 2022](#)). These data demonstrate a significant increase in speech delays, which undoubtedly hinders children's development. Yet early development lays the foundation for their future growth.

Cognitive development, including language, proceeds rapidly in the kindergarten years. Intellectual growth is especially swift between birth and preschool age ([Nurrisalia & Nengsih, 2022](#)). The kindergarten period is considered a sensitive learning phase ([Bastian et al., 2023](#); [Jayadinigrat & Widiani, 2021](#); [Stanichenko et al., 2021](#); [I. G. S. Suci et al., 2024](#); [Thompson & Steinbeis, 2020](#); [Vallberg Roth, 2020](#)), during which children's potential can be optimally nurtured with support from caregivers and kindergarten teachers ([Windayani et al., 2021](#)). One critical skill to develop is language ability, which is closely linked to thinking skills ([Etnawati, 2021](#); [Tursunovich, 2022](#)). Therefore, parents and teachers must pay close attention to children's language development in these early years.

Children acquire language naturally as they adapt to their environment. The quality of language used by those around them influences children's speaking and language skills ([Aminah & Aina, 2023](#)). As a tool for socialization, language enables children to respond to others. Language ability differs from speaking ability: language involves a complex grammatical system, whereas speaking is the expression of words. Language can be receptive (understood or received) or expressive (articulated) ([Ulwiyah & Nurhadiyati, 2024](#)) for example, listening and reading are receptive skills, while speaking and writing are expressive skills.

Early childhood exhibits unique characteristics distinct from those of adults and will eventually mature into fully developed individuals ([Ummairoh et al., 2023](#)). There are four stages in early childhood growth: the infant stage (from birth to 12 months) ([Lohr et al., 2021](#)); the toddler/preschooler stage (1–3

years); the pre-school stage (3–5 years); and the early primary school stage (6–8 years) ([Fauziddin & Asni, 2017](#)). Each developmental stage presents its own characteristics, which early childhood education must take into account ([Estari, 2020](#)). If education does not align with children's developmental characteristics, outcomes tend to be suboptimal and may negatively affect their growth and development.

Language is a form of communication composed of a system of symbols, spoken, written, or signed. It consists of the words used by a community and the rules for combining them ([Arnianti, 2019](#)). There are two main aspects of language: receptive and expressive. Receptive language refers to the recipient's ability to understand the content of a message. According to Frazier, receptive language is the ability to accurately comprehend what is said, written, or signed by others ([Frazier, 2011](#)). Normal development of receptive language can be observed through the accuracy of verbal responses to received messages ([Frazier, 2011](#)). Receptive language is vital because it forms the foundation for all communicative functions, such as making requests, following instructions, asking questions, making statements, and responding to yes-no questions ([Frazier, 2011](#)).

In addition to receptive language, another important aspect of language is expressive language, or speaking. Expressive language involves using words or verbal sentences to convey thoughts and feelings, enabling children to express desires and opinions ([Arnianti, 2019](#)). By the time children enter kindergarten, they already possess a reasonably good foundation in speaking and listening. However, over time they still need guidance to become more skilled at listening attentively, following directions, understanding main ideas, and expanding their vocabulary. This support helps them gain confidence in expressing ideas, describing objects, and conveying feelings and imagination. One enjoyable and effective way to support this process is through storytelling and narrative activities.

A “*dongeng*” (storytelling) is a narrative story typically delivered orally. These tales often contain moral values, character lessons, and everyday life themes presented in a manner that engages children ([Titik WS, 2023](#)). Storytelling is not merely entertainment but also a powerful communication medium for transferring ideas and concepts to children ([Rahiem, 2021](#)). Meanwhile, beatboxing is a vocal art form that involves creating sounds, rhythms, and music using the mouth, lips, tongue, and breath sounds ([Widodo, 2022](#)).

Children's language abilities are influenced by their external environment. They learn language through positive reinforcement from adults ([Riyanti, 2020](#)), including through storytelling and enjoyable musical experiences. Both storytelling and beatboxing can stimulate children's cognitive processes, including their understanding of word and sentence meanings. Storytelling accompanied by beatboxing may have a positive impact on children's language development. The combination of engaging narrative and captivating beatboxing rhythms can stimulate various aspects of language development, such as comprehension, vocabulary, and linguistic creativity.

Montag et al. revealed a relationship between storytelling activities and children's language development, and other studies have highlighted music's role in language acquisition ([Montag et al., 2015](#)). Research by Antika (2025) also found that storytelling has a highly significant effect on preschoolers'

language skills ([Antika & Nirwana, 2025](#)). Pebriana (2017) explained that proper storytelling techniques can enhance children's language proficiency, as children directly absorb information conveyed through listening to stories. However, studies specifically combining storytelling with beatboxing accompaniment remain limited, making this research both relevant and important ([Pebriana, 2017](#)).

In everyday life, music often accompanies various activities, including storytelling. One musical form that has grown in popularity is beatboxing. Defined as music produced and articulated using the mouth ([Widodo, 2022](#)), beatboxing has become part of numerous performances and community-music events. It is not merely entertainment but also a creative medium that can enhance the storytelling experience. Beatboxing can capture young children's interest and encourage attentive listening. By incorporating diverse vocal sounds and rhythms, beatboxing enriches storytelling, making it an engaging way to convey narratives and keep preschoolers both interested and actively involved.

Storytelling accompanied by beatboxing has been employed by a storyteller in Purwokerto known as Kak Al. He is well regarded among kindergarten and Raudhatul Athfal teachers in Purwokerto. His signature approach, combining narrative with beatbox rhythms, has successfully captivated children's attention. The children enjoy not only the story itself but also the unique and entertaining beatbox sounds. Some even attempt to imitate the beatbox sounds themselves, unknowingly practicing their language skills in the process.

Therefore, this study aimed to examine the effect of beatbox-accompanied storytelling on receptive language development among children aged 4–5 years. By integrating rhythmic vocal elements into storytelling activities, this study seeks to provide empirical evidence regarding the potential of beatboxing as an innovative pedagogical strategy in early childhood language learning.

METHOD

This study employed a pre-experimental design using a one-group pretest-posttest approach to examine changes in children's receptive language development following the implementation of beatbox-accompanied storytelling. This design was selected to compare children's receptive language abilities before and after the implementation of beatbox-accompanied storytelling within the same group of participants.

The participants consisted of 20 children aged 4–5 years from Groups A and B at Rumah Kreatif Wadas Kelir Playgroup (KB Rumah Kreatif Wadas Kelir), Purwokerto, Central Java, Indonesia, comprising 11 children from Group A and 9 children from Group B. Participants were selected using purposive sampling based on the following criteria: (1) being between 4 and 5 years of age, (2) having initial receptive language abilities related to listening and responding, and (3) actively participating in classroom activities. The children participated in beatbox-accompanied storytelling activities (X). Pre-intervention scores (O_1) and post-intervention scores (O_2) were subsequently compared to examine changes in receptive language development following

the implementation of beatbox-accompanied storytelling. Receptive language was measured using a Likert-scale instrument consisting of two indicators: comprehension and response.

Prior to the intervention, children participated in conventional storytelling activities, and their receptive language performance was recorded as the pretest score (O_1). Subsequently, the same children participated in storytelling sessions accompanied by beatboxing as the intervention (X). After the intervention, their receptive language performance was assessed again as the posttest score (O_2).

The primary instrument used in this study was a questionnaire. The instrument was developed by simplifying the language and sentence structure to ensure that the items were appropriate for young children's level of comprehension, based on the theoretical framework proposed by Demchak, Elquist, and Rickard (2002) (see Instrument Development). Receptive language development was measured using an observation-based questionnaire consisting of 19 items distributed across two dimensions: comprehension (9 items) and response (10 items). All items were rated using a Likert scale.

Prior to its use in the main study, the instrument was pilot-tested with children from RA Baitul Muttaqin to examine validity and reliability. The pilot-test participants were not included as participants in the intervention study.

The instrument underwent validity and reliability testing prior to its administration to ensure that it accurately measured children's receptive language development. The instrument validity was assessed through both content validity and construct validity. Content validity was evaluated by two experts from UIN Prof. K.H. Saifuddin Zuhri Purwokerto and UIN Sultan Maulana Hasanuddin Banten (see [Instrument Development](#)). Construct validity was examined using Pearson's correlation coefficient (see [Validity Testing](#)). For the first aspect, Comprehension, eight of the nine items were found to be valid (Items A1, A2, A3, A4, A5, A7, A8, and A9). However, Item A6 was deemed invalid because its correlation coefficient ($r = 0.637$) was lower than the critical r -value (0.878) and was not statistically significant ($p = 0.248$). For the second aspect, Response, eight of the ten items were found to be valid (Items B1, B2, B3, B4, B5, B7, B8, and B9). Two items were identified as invalid: Item B6 ($r = 0.594$, $p = 0.291$) and Item B10 ($r = 0.101$, $p = 0.872$), as their correlation coefficients were below the critical r -value and were not statistically significant. Reliability was assessed using Cronbach's Alpha (see [Reliability Testing](#)). The comprehension scale obtained a Cronbach's Alpha coefficient of 0.953, while the response scale obtained a coefficient of 0.927, indicating excellent internal consistency and high reliability.

Data were analyzed using descriptive and inferential statistics. A normality test was first conducted to examine whether the pretest and posttest scores met the assumptions for parametric analysis. A paired-samples t -test was then used to compare children's receptive language scores before and after the implementation of beatbox-accompanied storytelling. Simple linear regression analysis was additionally conducted to examine the relationship between the storytelling intervention and receptive language outcomes.

RESULT

The tests results were explained as follows:

Normality Test

The normality test determines whether the measurement data from respondents are normally distributed. This test uses the Shapiro-Wilk method to assess the assumption of normal distribution. The normality test was conducted on pretest and posttest scores obtained from the same participants to determine whether the data met the assumption required for paired-samples t-test analysis. The normality test ensures that the language acquisition scores meet the assumptions required for parametric statistical analysis. The results are as follows:

Table 1. Normality Test

		Tests of Normality					
	Class	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
Questionnaire Results	Pretest (conventional storytelling)	.133	20	.200*	.976	20	.872
	Posttest (beatbox-accompanied storytelling)	.127	20	.200*	.934	20	.182

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

The normality test results indicate that data for both variables—x (conventional storytelling) and y (beatbox-accompanied storytelling)—are normally distributed. In the Kolmogorov-Smirnov test, the significance values for variables x and y are $p = .200$, greater than $.05$, indicating no significant deviation from normality. In the Shapiro-Wilk test, $p = .872$ for x and $p = .182$ for y, both exceeding $.05$, confirming normal distribution. Therefore, both sets of data meet the normality assumption for further parametric analysis.

Homogeneity Test

The homogeneity test assesses whether the variances of the two compared groups are equal. This test is crucial since many parametric methods, such as t-tests and ANOVA, assume equal variances between groups. In this study, the homogeneity test examines whether the language acquisition scores from children exposed to beatbox-accompanied storytelling and those exposed to conventional storytelling at KB Rumah Kreatif Wadas Kelir have equivalent variances. The results are as follows:

Table 2. Homogeneity Test

Test of Homogeneity of Variance

		Levene Statistic	df1	df2	Sig.
Hasil Kuesioner Responden	Based on Mean	1.903	1	38	.176
	Based on Median	1.362	1	38	.250
	Based on Median and with adjusted df	1.362	1	30.070	.252
	Based on trimmed mean	1.846	1	38	.182

All significance values exceed .05, indicating homogeneous variances. For example, the significance value based on the mean is .176 ($p > .05$), showing no significant variance difference. Thus, the data meet the homogeneity assumption for parametric tests such as the t-test.

Paired Samples t-Test

In this study, the t-test analyzes the difference in language acquisition scores between children listening to beatbox-accompanied storytelling and those listening to conventional storytelling at KB Rumah Kreatif Wadas Kelir. The test assumes normal distribution and homogeneous variances. The results are presented below:

Table 3. Paired Samples t-Test

Paired Samples Test									
	F	Sig.	t	df	t-test for Equality of Means				
					Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower	Upper
Equal variances assumed	1.903	.176	-3.834	19	.000	-6.900	1.800	-10.544	-3.256
Equal variances not assumed			-3.834	33.010	.001	-6.900	1.800	-10.562	-3.238

The paired-samples t-test was conducted to examine differences in children's receptive language scores before and after participating in beatbox-accompanied storytelling. The results showed a statistically significant improvement between pretest and posttest scores ($p < .05$), indicating that children's receptive language performance increased following the beatbox storytelling intervention. The test shows equal variances ($p = .176 > .05$), allowing the use of the "Equal variances assumed" row for interpretation. The t-value is -3.834 with $df = 19$ and $p = .000$, indicating a statistically significant difference ($p < .05$). The mean difference is -6.900, with the beatbox group scoring higher. The 95% confidence interval ranges from -10.544 to -3.256, not including zero, reinforcing the significance of the difference. Thus, children's receptive language scores significantly improved after participating

in beatbox-accompanied storytelling compared with their scores following conventional storytelling sessions.

Regression Analysis

The regression analysis examines the relationship between the independent variable (storytelling condition) and the dependent variable (receptive language score) and determines how much influence the independent variable has. The results are as follows:

R dan R Square

Tabel 4. Nilai R dan R Square

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.528 ^a	.279	.260	.436

a. Predictors: (Constant), questionnaire results

The regression analysis indicated that the storytelling condition contributed to changes in receptive language scores. The R^2 value of .279 suggests that approximately 27.9% of variance in receptive language outcomes was associated with the storytelling intervention.

Anova Test

Tabel 5. Anova

ANOVA^a					
Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	2.789	1	2.789	14.697	.000 ^b
1 Residual	7.211	38	.190		
Total	10.000	39			

a. Dependent Variable: receptive language score

b. Predictors: (Constant), questionnaire results

The ANOVA results showed that the regression model was statistically significant ($F = 14.697$, $p < .001$), indicating that the storytelling condition significantly contributed to variations in receptive language scores.

Coefficients

Table 6. Coefficients

Coefficients^a					
Model	Unstandardized Coefficients		Standardized Coefficients Beta	t	Sig.
	B	Std. Error			
(Constant)	-1.889	.887		2.130	.040
1 Hasil Kuesioner Responden	.040	.011	.528	3.834	.000

a. Dependent Variable: receptive language score

The regression coefficient indicated a significant positive association between the storytelling intervention and children's receptive language outcomes ($\beta = .528$, $p < .001$), suggesting that beatbox-accompanied storytelling contributed

significantly to variations in receptive language development. The coefficient for questionnaire results is .040, indicating each unit increase in questionnaire results raises the class score by .040 ($p = .000$). This confirms the significant contribution of the storytelling method to language acquisition outcomes.

DISCUSSION

Based on the paired-samples t-test results ($t = -3.834$, $df = 19$, $p = .000$), with a mean difference of -6.900 (see Table 3), children's receptive language scores significantly increased after participating in beatbox-accompanied storytelling compared with their initial scores obtained during conventional storytelling sessions. The regression model summary (see Table 4) indicated that: (1) $R = .528$, suggesting a moderate relationship between the questionnaire scores and the instructional condition; and (2) $R^2 = .279$, indicating that 27.9% of the variance in receptive language scores was explained by the storytelling method, while the remaining variance was attributable to factors outside the model. The ANOVA results (see Table 5) revealed a statistically significant model ($p = .000$), confirming that the instructional condition had a significant effect on the questionnaire scores. The findings demonstrate that integrating beatboxing into storytelling activities supports receptive language development by providing rhythmic, multisensory, and emotionally engaging learning experiences. The slope coefficient of .040 indicates that for every one-point increase in the questionnaire score, the predicted class score increases by .040. This effect was statistically significant ($p < .001$). Overall, these findings demonstrate that beatboxing provided additional interactive and multisensory elements that supported receptive language improvement.

The evidence demonstrates strong support for multisensory and emotionally engaging storytelling. S. Hettiarachchi et al. in 2020 showed vocabulary gains through multisensory storytelling with 7 children across 12 lessons ([Hettiarachchi et al., 2022](#)). In line with that, Xiao et al. found that teachers using body language, props, and vocal tones stimulated children's emotional engagement and cooperation during storytelling ([Xiao et al., 2023](#)). Therefore, beatboxing as a vocal art form involving complex vocal techniques to create music and soundscapes ([Inchley, 2021](#)) can be one alternative way for teachers to engage various senses and emotions to stimulate emotional engagement in young children and also enhance their vocabulary.

The statistical results, which yielded a t-value of -3.834 with a significance level of $p = .000$, indicate a highly significant difference between the pretest and posttest scores of the intervention group. These findings are not merely a numerical anomaly but are consistent with previous experimental research conducted at Bee Kids, Purwokerto, which similarly demonstrated significant improvements in children's verbal participation and vocabulary acquisition following the implementation of a beatbox-based storytelling intervention ([Mustofa & Hayati, 2024](#)). Furthermore, the regression analysis produced a correlation coefficient of $R = .528$, indicating a moderate yet stable linear

relationship between the storytelling method and improvements in receptive language scores. This finding is consistent with the qualitative observations reported by Kak Al, who documented enhanced attention and phonological awareness among children as a direct result of rhythmic stimulation during storytelling activities.

The R^2 value of .279 indicates that 27.9% of the variance in receptive language scores was explained by the storytelling method. Although 72.1% of the variance remains attributable to other factors, this finding highlights the importance of examining the contribution of beatboxing within a broader and more holistic framework. Rather than representing a limitation, the proportion of unexplained variance reflects the complex nature of language development in educational settings. As identified by de Lima in the MUS-STORY clinical trial protocol, children's linguistic development is shaped by multidimensional interactions among auditory stimulation, emotional engagement, and social context ([Lima, 2025](#)). Therefore, the 27.9% explained variance provides strong quantitative evidence of the specific contribution of beatbox-accompanied storytelling within this broader constellation of influences. This finding is consistent with research conducted at the University of Halle, which demonstrated that beatboxing contributes significantly to improvements in speech articulation, although its effects remain influenced by environmental and individual cognitive factors ([Sallat et al., 2024](#)).

Furthermore, the regression coefficient analysis yielded a slope coefficient of .040 ($p < .001$), indicating that each one-point increase in the questionnaire score was associated with a measurable increase in the predicted outcome score. Although this marginal effect may appear modest, it carries important practical significance when considered alongside comparative studies of music-based and conventional language-learning approaches. For example, Rufaidah's study found that musically enriched instructional methods (mean score = 61.2) consistently outperformed conventional methods (mean score = 45.0) in language acquisition outcomes ([Rufaidah & Rahmi, 2025](#)). These findings suggest that beatboxing, as a form of vocal musicality, offers distinctive advantages that are not present in conventional storytelling approaches. This interpretation is further supported by the highly significant ANOVA result ($p = .000$; see Table 5), which confirms the overall effectiveness of the treatment condition.

First, storytelling with beatboxing leverages children's sensory and imaginative experiences more deeply than conventional narration. Beatbox introduces dynamic sounds rhythms, pitches, and novel audio effects that captivate children's attention and provide richer multisensory stimulation. This interactivity fosters curiosity and makes the story more memorable. Rhythmic beatboxing, for example, helps reinforce connections between story elements and the real world, facilitating recall. As Irawana and Desyandri (2019) note, musical rhythm and tempo can seize children's attention through their inherent appeal ([Irawana & Desyandri, 2019](#)). In this context, beatbox

not only offers engaging rhythms but also sparks children's curiosity about how such sounds are produced vocally.

According to Rahiem (2021), when a teacher narrates a story whether a folk tale or similar narrative children gain perceptual and imaginative experiences ([Rahiem, 2021](#)). Beatboxing amplifies this effect: unique sound effects help children visualize scenes (e.g., animal noises or action sequences), strengthening their ability to understand abstract concepts concretely. Compared to conventional storytelling, beatbox creates a livelier, more enjoyable environment that invites active participation. By integrating beatbox into storytelling, the activity becomes more entertaining, captivating, and appealing to young listeners.

Moreover, the enjoyable beatboxing experience helps children associate learning with play, increasing their focus and retention. Zeng, Parks, and Shang (2020) found that learners who enjoy the process are more likely to remember educational content, including story morals or lessons ([Zeng et al., 2020](#)). By harmoniously blending sensory and imaginative elements, beatbox-accompanied storytelling builds curiosity and lays a stronger foundation for long-term learning than traditional narration.

Second, beatbox-enhanced storytelling engenders a fun, dynamic environment: its rhythmic and dynamic elements make the narrative feel more alive and interactive than a static telling. Poćwierz-Marciniak and Harciarek (2021) explain that music's tempo changes and dynamic qualities can foster emotional closeness and cognitive engagement in children ([Poćwierz-Marciniak & Harciarek, 2021](#)). Rich audio experiences such as drum imitations or special effects provide multi-sensory stimulation that heightens enjoyment and interest. Beatboxing often introduces surprising or humorous sounds, creating a cheerful mood distinct from conventional storytelling.

This format also invites more active interaction: children follow rhythms, imitate sounds, and forge stronger emotional connections with the storyteller. The modern, pop-culture appeal of beatboxing makes it especially relevant and relatable to today's children. High-energy beatbox rhythms boost enthusiasm and maintain attention, as Suci (2019) observes that specific musical sounds can elevate children's spirits ([D. wulan Suci, 2019](#)). Beatboxing typically employs upbeat drum loops and energetic effects rather than slow or melancholic tones, further promoting a joyful, engaging atmosphere. All these factors make beatbox accompaniment a delightful and effective enhancement to the storytelling experience.

Third, beatboxing adds a new dimension of creativity and humor to the storytelling experience, making it more engaging and entertaining for children. Unique beatbox sounds imitations of drums, musical instruments, or amusing effects elicit spontaneous reactions such as laughter or surprise. Children are delighted by the element of surprise created by unexpected sounds, since beatbox offers sonic variations they rarely encounter in conventional narration. Consequently, beatbox-accompanied stories become more imaginative and enjoyable for young listeners.

Moreover, the humor in beatboxing arises not only from the sounds themselves but also from how the storyteller integrates them into the

narrative. For example, a comical animal imitation or strange noise synchronized with a story scene can make children laugh because it aligns with their imagination. This also nurtures their curiosity, as they eagerly anticipate what sound will come next. Kusuma, Rusmana, and Nurislaminingsih (2023) emphasize that monotonous storytelling is less captivating than creative approaches ([Kusuma et al., 2023](#)). Creative storytelling can involve various media such as props, puppets, audiovisuals, or beatbox by weaving sound variations into the tale.

The storyteller's creativity in using beatbox allows them to adapt sounds in response to the children's reactions, creating spontaneous, personalized interaction. If a particular sound makes children laugh, the storyteller can extend or repeat it, making the atmosphere even more enjoyable and interactive. This approach breaks away from monotony, delivering a more vivid, dynamic, and personalized experience. Furthermore, creative beatbox storytelling helps bring characters to life: beatbox sounds can express a character's emotions joy, fear, or silliness enriching children's imagination and making the story more memorable. The humor generated by these elements not only entertains but also forges a stronger emotional bond between children and the story, enhancing its educational and entertainment value.

Fourth, beatbox-accompanied storytelling captures children's receptive language scores significantly improved after participating in beatbox-accompanied storytelling compared with their scores following conventional storytelling sessions. Attention is the crucial prerequisite for encoding information into memory. According to memory theory, there are three stages of memory processing: sensory memory, short-term memory, and long-term memory ([Kuhn, 2000](#)). To enter sensory memory, attention is required; without it, sensory input cannot be stored ([Loftus & Loftus, 2019](#)). Related evidence shows that beat gestures (hand movements) enhance children's narrative structure and fluency ([Vilà-Giménez & Prieto, 2020](#)) and the Beataalk method (beatboxing-based) improves speech intelligibility ([Icht, 2021](#)), suggesting potential benefits for narrative delivery. By infusing storytelling with musical accompaniment, beatboxing makes the narrative more compelling, prompting listeners to focus more intently.

This heightened attention is vital for language acquisition in early childhood because we recognize that a child has acquired language when they can express information they have internalized and recall it from memory. In other words, language acquisition is demonstrated through expressive use of language for instance, when a child hears a story and then retells it to someone else. Therefore, beatbox-accompanied storytelling can enhance language acquisition. Swaminathan and Schellenberg (2020) explain that musical sounds can bolster children's language skills by engaging their emotions; because beatbox evokes emotional responses, the stimulation is more likely to be encoded in children's sensory memory ([Swaminathan & Schellenberg, 2020](#)).

CONCLUSION

Storytelling accompanied by beatboxing holds significant potential as a creative learning strategy by integrating art, musical sounds, and narrative to

heighten children's engagement in the learning process—especially in developing receptive language. Beatboxing not only offers a rich sensory experience but also establishes an interactive and enjoyable learning environment, making instruction both more effective and captivating. The finding that beatboxing increases children's interest and attention to the story can be realized by incorporating musical and rhythmic elements into storytelling sessions. This approach not only makes learning more fun but also reinforces children's receptive language skills through a deeper, more immersive experience. However, due to the absence of a control group and the limited sample size, future studies involving randomized controlled designs and larger participant groups are recommended to further validate the effectiveness of beatbox-accompanied storytelling.

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