Indonesian Journal of Early Childhood Educational Research, 4(2)-December 2025, pp. 359-370

Indonesian Journal of Early Childhood Educational Research

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

The Effect of Storytelling Method on Children's Cognitive Development at the Age of 5–6 Years

Nur Fatwa Khusnul Khatima[1*], Andi Agusniatih[2], Hesti Putri Setianingsih[3], Shofiyanti Nur Zuama[4], João Lima[5]

[1,2,3,4]*Universitas Tadulako, Indonesia*

[5]*National University of Timor-Leste, Timor-Leste*

***Corresponding Author**: Nur Fatwa Khusnul Khatima, **E-mail**: nurftwa@gmail.com

Received: November 11, 2025	Revised: December 01, 2025	Accepted: December 06, 2025	Online: December 31, 2025

ABSTRACT

Cognitive ability is one of the essential aspects of early childhood development that must be stimulated through approaches aligned with the children's developmental stages. This study aims to determine the effect of the storytelling method on the cognitive abilities of children aged 5–6 years. The research employed a quantitative approach with a pre-experimental design of the one-group pretest-posttest type. The study involved 14 children from Group B as research subjects. Data were collected through observation, interviews, and documentation, using observation sheets, assessment rubrics, and interview guidelines as instruments. The data were analyzed descriptively and inferentially using a paired sample t-test. The results revealed a significant improvement in the aspects of retelling stories, answering questions, and identifying story settings and characters after the implementation of the storytelling method. This improvement was reflected by an increase in the "Very Well Developed" category and a notable decrease in the "Not Yet Developed" category. The t-test results showed a significance value of < 0.05, indicating a significant effect of the storytelling method on children's cognitive abilities. These findings confirm that the storytelling method is an effective learning approach to actively, enjoyably, and meaningfully stimulate children's cognitive development in the context of early childhood education.

Keywords: *Storytelling Method, Cognitive Ability, Early Childhood*

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

How to cite: Khatima, N. F. K., Agusniatih, A., & Setianingsih, H. P., Zuama, S. N (2025). The Effect of Storytelling Method on Children's Cognitive Development at the Age of 5–6 Years. Indonesian Journal of Early Childhood Educational Research (IJECER), 4(2), 359-370. https://doi.org/10.31958/ijecer.v4i2.15853

Published by: Universitas Islam Negeri Mahmud Yunus Batusangkar, Indonesia

INTRODUCTION

Education serves as a cornerstone for shaping human character and potential, particularly during the formative years of childhood when cognitive, emotional, and social capacities develop most rapidly (Frye et al., 2014; Ridwanulloh et al., 2024; Warmansyah et al., 2023). In this critical period, learning is not solely about transmitting knowledge but about cultivating curiosity, reasoning, and creativity through meaningful experiences (Nurlaila et al., 2025; Sari et al., 2022; Wijaya & Dewi, 2021). The early years lay the groundwork for lifelong learning, and thus the quality of stimulation provided in early education profoundly affects later success in academic and social domains (Iskandar et al., 2025; Warmansyah et al., 2025; Wulandari, Kurniati, et al., 2025; Wulandari, Warmansyah, et al., 2025). Effective early childhood education must therefore adopt pedagogical approaches that align with children's

developmental readiness, encouraging active exploration, joyful engagement, and critical thinking (Brandes-Aitken et al., 2019).

As emphasized by Baan (2020) and Febriani et al.,(2023), early childhood education aims to facilitate holistic development physical, emotional, social, and cognitive through integrated experiences that support the child's growth as a whole. During this golden age, children possess heightened sensitivity and receptiveness to stimuli from their surroundings. Their capacity for observation, imitation, and experimentation allows them to acquire complex skills naturally when guided appropriately (Piaget, 1952; Vygotsky, 1978). Consequently, educators play a transformative role: not as mere transmitters of knowledge, but as facilitators who design learning environments that promote inquiry, reflection, and problem-solving. A developmentally appropriate curriculum should therefore integrate storytelling, play, and dialogue to foster thinking and understanding (Pears et al., 2018).

Play-based learning represents one of the most effective pedagogical foundations for young learners. According to Nurfahma et al., (2024), learning through play supports children's intrinsic motivation while enhancing their capacity for reasoning, exploration, and communication. Play provides a natural context for children to test hypotheses, connect experiences, and construct meaning core components of cognitive development. Through structured play, children engage in symbolic thinking, classification, and memory building, which strengthen higher-order cognitive processes (Bodrova & Leong, 2019). However, the success of such stimulation depends largely on the teacher's ability to select and implement methods that intertwine play, imagination, and intellectual challenge.

Despite growing awareness of developmentally appropriate learning, misconceptions about cognitive development remain prevalent. Many parents and educators still equate cognitive achievement solely with early literacy and numeracy skills (calistung). As Sujiono,(2014) highlight, the premature enforcement of academic skills can lead to anxiety, stress, and diminished curiosity among young learners. Early instruction that prioritizes rote memorization over creative exploration can suppress children's intrinsic motivation and hinder long-term cognitive flexibility (Hassinger-Das et al., 2017). Thus, educators must adopt methods that encourage children to think, imagine, and question where learning becomes a joyful discovery rather than a task to complete.

However, field observations reveal that the implementation of such principles remains limited in some early education settings. In one observed kindergarten class, learning activities were still monotonous and lacked variation, leading to a number of children showing low levels of cognitive engagement. Several children appeared passive and unresponsive during lessons, particularly when asked to share ideas or respond to questions. Their imaginative abilities were also underdeveloped; for instance, when prompted to describe the appearance of an elephant, many children struggled to provide coherent answers. These findings suggest that the learning process was insufficiently stimulating and not yet aligned with the developmental characteristics of children aged 5–6 years, who require interactive, imaginative, and story-based experiences to construct understanding.

Among the diverse strategies for achieving this balance, storytelling stands out as an engaging and cognitively enriching method. Storytelling invites children to enter imaginative worlds, engage emotionally with characters, and reason through narrative events. According

to Indarwati Churiyah & Hasibuan, (2025), storytelling promotes critical cognitive processes such as sequencing, predicting, and inferencing, while also strengthening memory retention. Similarly, Yang & Wu, (2012) argue that storytelling fosters symbolic representation a crucial skill in early cognition that bridges concrete and abstract thinking. The narrative context not only enhances comprehension but also encourages children to empathize, analyze cause-and-effect relationships, and articulate their understanding in their own words.

Empirical evidence supports the educational benefits of storytelling. Rafiola et al., (2022) found that children exposed to systematic storytelling sessions exhibited measurable improvements in reasoning and recall compared to those taught through direct instruction. Moreover, Purnama et al., (2022) reported that story-based pedagogy improved children's capacity for concept categorization and cognitive reflection, suggesting that narrative learning supports deeper information processing. Nonetheless, in many early childhood classrooms, storytelling remains underutilized or confined to passive listening activities without structured reflection or follow-up discussion (E. Isbell et al., 2018). This limited application indicates that the full cognitive potential of storytelling has not yet been fully realized in early education settings.

In response to these conditions, this study aims to examine the effect of the storytelling method on the cognitive development of children aged 5–6 years. By engaging children in structured story-based activities, this research explores how storytelling enhances recall, reasoning, and comprehension within early learning contexts. The approach emphasizes active participation, imagination, and contextual understanding, ensuring that cognitive stimulation occurs naturally within an enjoyable experience. The findings are expected to contribute to the refinement of instructional practices in Early Childhood Education by positioning storytelling not only as a language tool but as an effective, research-supported strategy to foster holistic cognitive growth.

RESEARCH METHODOLOGY

Research Approach

This study employed a quantitative experimental approach designed to determine the effect of a specific treatment on children's cognitive abilities. The quantitative method was chosen because it allows for systematic and objective measurement of changes that occur as a result of the intervention, using numerical data and statistical analysis to test the formulated hypothesis (Creswell, 2014). The central focus of this study was to assess the impact of the storytelling method on the cognitive development of children aged 5–6 years. The research sought to identify measurable changes in the children's ability to think logically, respond to questions, and engage in imaginative reasoning before and after participating in storytelling-based learning sessions.

Research Design

The study utilized a pre-experimental design with a one-group pretest–posttest structure. This design consisted of three stages: the initial measurement (pretest), the implementation of the treatment (storytelling activity), and the final measurement (posttest). The pretest was conducted to assess the children's initial level of cognitive ability, followed by

the treatment phase in which the teacher conducted structured storytelling sessions as the primary learning method. The posttest was then carried out to observe changes in cognitive performance after the intervention. The design format can be represented as $O_1 – X – O_2$, where O_1 represents the pretest observation, X refers to the storytelling treatment, and O_2 denotes the posttest observation. Through this design, the study aimed to identify any significant improvement in children's cognitive performance after being exposed to the storytelling method.

Research Setting and Participants

This research was conducted in an early childhood education institution, focusing on Group B children aged 5–6 years. The study site was chosen based on preliminary observations that revealed a need for innovative learning strategies to stimulate cognitive growth. The research took place over a period of three weeks, beginning in July 2025, which coincided with the start of the new academic year. Prior to data collection, the researcher obtained formal permission from the educational institution and the relevant faculty to ensure ethical compliance. The participants in this study consisted of 14 children, including 8 girls and 6 boys, all of whom were enrolled in Group B. This group was selected because several children had not yet demonstrated optimal cognitive development. Throughout the research, the children were observed directly in classroom activities, with particular attention to their behaviors related to thinking, responding, and reasoning during storytelling sessions.

Types and Sources of Data

The study relied primarily on quantitative data, which were obtained through systematic observation of children's activities during the learning process. These data included records of children's cognitive performance before and after the storytelling intervention. The primary data were collected directly from observations of children's classroom behavior, while the secondary data were obtained from institutional documents, previous research, and relevant literature supporting the theoretical framework of early childhood cognitive development and storytelling as an educational method.

Data Collection Techniques

Data were collected using three main techniques: observation, documentation, and interviews. The observation technique was employed to record children's behaviors and interactions during the storytelling sessions, using a structured observation sheet that had been prepared in advance. Documentation was used to gather supporting information such as attendance records, photographs, and notes about classroom activities. In addition, interviews were conducted with classroom teachers to obtain qualitative insights about the implementation of the storytelling method, their perceptions of the children's progress, and the challenges encountered during the learning process.

Research Instruments

Several instruments were used to facilitate data collection, including observation sheets, cognitive development assessment rubrics, interview guidelines, and visual

documentation tools such as a camera or smartphone. The assessment rubric was developed based on national standards for early childhood development and adapted to align with the characteristics of storytelling-based learning. The rubric measured various indicators of cognitive ability such as recalling information, responding to questions, identifying story elements, and drawing logical conclusions. Prior to implementation, the instruments were reviewed and validated by early childhood education experts to ensure reliability and alignment with the study objectives.

Data Analysis Techniques

Data analysis in this study consisted of descriptive and inferential techniques. The descriptive analysis was used to present the distribution of children's cognitive development levels as observed before and after the intervention. The data were categorized into four developmental levels: Very Well Developed (VWD), Well Developed (WD), Emerging (E), and Not Yet Developed (NYD), following the national early childhood assessment standards.

To test the hypothesis regarding the effect of the storytelling method on children's cognitive abilities, inferential analysis was performed using a paired sample t-test. This statistical test compared the mean pretest and posttest scores from the same group of participants to determine whether a significant difference existed between the two sets of data. The t-test was conducted using SPSS software.

Research Procedures

The research was conducted through three sequential phases: preparation, implementation, and final analysis. The preparation phase involved determining the research location, developing the proposal, preparing and validating research instruments, and obtaining the necessary institutional permissions. The implementation phase consisted of coordinating with the early childhood institution, delivering the storytelling-based learning sessions as the treatment, and collecting data through observation, documentation, and interviews. Finally, the analysis phase involved processing the collected data, performing statistical tests, and documenting the findings to produce the final research report.

Through these systematic stages, the study ensured that all procedures were carried out in accordance with academic and ethical research standards. This methodological approach allowed for a comprehensive understanding of how storytelling influences cognitive development among children aged 5–6 years in an early childhood education context.

RESULTS AND DISCUSSION

Results

This research was conducted in an early childhood education institution focusing on Group B, which consisted of 14 children (8 girls and 6 boys) aged 5–6 years. The purpose of this study was to determine the effect of the storytelling method on children's cognitive development, which included three main aspects; (1) Retelling the Story; (2) Answering Questions, and (3) Identifying Setting and Characters.

Observation Results Before Treatment

Before implementing the storytelling method, observations were conducted to assess the children's cognitive abilities in the three aspects mentioned above. The results are presented in the following table.

Table 1. Observation Results Before Treatment

Category	Retelling the Story (%)	Answering Questions (%)	Identifying Setting and Characters (%)
Very Well Developed (VWD)	14	14	14
Well Developed (WD)	21	21	14
Emerging (E)	29	36	36
Not Yet Developed (NYD)	36	29	36

The table above shows that the majority of children were in the *Emerging* and *Not Yet Developed* categories, indicating that their cognitive abilities were relatively low before the treatment was implemented.

Observation Results After Treatment

After three weeks of storytelling-based learning, there was a significant improvement in all three aspects of children's cognitive development. The results are presented in the following table.

Table 2. Observation Results After Treatment

Category	Retelling the Story (%)	Answering Questions (%)	Identifying Setting and Characters (%)
Very Well Developed (VWD)	35.71	28.57	28.57
Well Developed (WD)	28.57	42.85	35.71
Emerging (E)	35.71	28.57	28.57
Not Yet Developed (NYD)	0.00	0.00	7.14

The table illustrates that the *Not Yet Developed* category decreased significantly, while the *Very Well Developed* category increased across all aspects.

Comparison of Cognitive Abilities Before and After Treatment

Table 3. Comparison of Cognitive Abilities Before and After Treatment

Category	Retelling Story (%) Before	Answering Questions (%) Before	Identifying Setting and Characters (%) Before	Retelling Story (%) After	Answering Questions (%) After	Identifying Setting and Characters (%) After
VWD	14	14	14	35.71	28.57	28.57
WD	21	21	14	28.57	42.85	35.71
E	29	36	36	35.71	28.57	28.57
NYD	36	29	36	0.00	0.00	7.14

The figure demonstrates a clear upward trend in all three aspects of cognitive ability after the storytelling intervention, confirming its positive effect on children's cognitive growth.

Descriptive and Inferential Statistical Analysis

Table 4. Descriptive Statistics of Children's Cognitive Ability

Statistic	Before Treatment	After Treatment
Minimum	3	6
Maximum	11	12
Mean	6.43	8.86
Std. Dev.	2.533	2.033

The table above shows that the mean score of children's cognitive abilities increased from 6.43 to 8.86, indicating a notable improvement after the storytelling method was applied.

Table 5. Shapiro–Wilk Normality Test

Data	Sig. Before	Sig. After
Value	0.229	0.147

Since the significance value is greater than 0.05, the data are considered normally distributed, fulfilling the assumption required for parametric testing.

Table 6. Results of the Paired Sample t-Test

Variable	Mean	t-value	df	Sig. (2-tailed)
Before–After	-2.429	14.062	13	0.000

The results of the paired sample t-test show that $t_h$itung (14.062) > $t_t$abel (1.770) and the significance value is 0.000 < 0.05. Therefore, the null hypothesis (H_0) is rejected, and the alternative hypothesis (H_1) is accepted, indicating a significant effect of the storytelling method on children's cognitive abilities.

Discussion

The findings demonstrate that the implementation of the storytelling method had a significant impact on improving children's cognitive abilities. The structured storytelling sessions were carried out through a sequence of preparatory, core, and concluding stages. During these sessions, teachers utilized illustrated storybooks and hand puppets to capture children's attention and sustain engagement. Children were encouraged to actively respond to questions, retell the stories, and discuss the characters and settings.

The most notable improvement was found in the aspect of retelling stories, which reflects an enhancement in memory, logical sequencing, and comprehension. According to Piaget's cognitive development theory (1964), children in the preoperational stage (ages 2–7) learn best through concrete experiences and symbolic play, such as storytelling, which allows them to reconstruct knowledge through personal interpretation. This finding aligns with

Halimah et al.,(2020), who emphasize that narrative-based activities strengthen working memory and abstract reasoning in early childhood.

In the aspect of answering questions, children demonstrated a higher level of engagement and responsiveness. After several sessions, most children were able to provide relevant and logical answers to the teacher's prompts. This aligns with the view of Puspitasari (2018), who explains that questioning techniques encourage critical and reflective thinking in young learners. Similarly, Bruner (2020) argues that storytelling supports the development of interpretive reasoning, as children learn to connect events and infer meanings based on narrative logic. The improvement observed in this aspect indicates that storytelling promotes dialogic learning, where language becomes a tool for cognitive reflection (Vygotsky, 1978).

In terms of identifying setting and characters, the children showed marked progress in recognizing key story elements, demonstrating improved analytical and representational thinking. This supports findings by Nicolopoulou (Nicolopoulou et al., 2015), who notes that narrative comprehension enhances children's capacity to organize mental representations and identify causal relationships in stories. Similarly, Isbell et al. (2004) found that storytelling improves both language complexity and narrative understanding, which directly contribute to cognitive elaboration and categorization skills.

The overall improvement in all three cognitive aspects suggests that storytelling facilitates integrated development by combining language, imagination, and logic. According to Farista & Priyanti, (2023), when children engage emotionally with stories, their motivation and cognitive processing increase simultaneously, leading to deeper comprehension. The use of visual media, such as puppets and picture books, further supports dual-channel processing as proposed by Mayer (2014) in his *Cognitive Theory of Multimedia Learning*, which explains that information retention improves when auditory and visual channels are activated simultaneously.

Furthermore, the results corroborate previous studies conducted by Handayani et al., (2017) and Bisma et al.,(2023), which both revealed significant cognitive gains in preschoolers exposed to structured storytelling interventions. Jannah et al., (2023) highlights that storytelling provides an authentic cognitive context where children learn to synthesize ideas and develop metacognitive awareness. In this study, the children's ability to analyze, recall, and explain story events increased substantially after several storytelling sessions, indicating enhanced information processing and representational thought. In essence, storytelling not only fosters linguistic competence but also supports higher-order cognitive functions such as reasoning, inference-making, and perspective-taking. As noted by Warmansyah & Nirwana, (2023), storytelling cultivates both creative and analytical dimensions of cognition, creating a balance between imagination and logic. This balance is essential for preparing children to engage with more abstract forms of learning in subsequent educational stages.

Overall, the present findings affirm that the storytelling method serves as an effective pedagogical strategy for enhancing the cognitive development of children aged 5–6 years. Beyond its entertaining nature, storytelling enables children to explore, interpret, and reconstruct knowledge in meaningful ways thereby supporting the holistic aims of early childhood education as envisioned.

CONCLUSION

The storytelling method effectively enhances the cognitive development of early childhood learners by fostering memory, logical reasoning, and narrative comprehension. Through consistent use of illustrated storybooks and interactive storytelling sessions, children become more engaged, responsive, and capable of organizing ideas systematically. This approach not only creates a joyful and meaningful learning environment but also strengthens children's ability to think critically and creatively. Storytelling thus serves as a powerful pedagogical strategy that supports holistic cognitive growth and should be integrated as a core component of early childhood education practices.

ACKNOWLEDGEMENT

The author extends sincere gratitude to the Head of Harapan Bangsa Guntarano Kindergarten and all the teachers for their permission and support during the implementation of this research. Appreciation is also conveyed to the academic supervisor and all individuals who provided valuable and constructive academic feedback. Special thanks are dedicated to the participating children and their parents for their active involvement and cooperation throughout the study.

REFERENCES

Baan, A. B., Rejeki, H. S., & Nurhayati. (2020). Perkembangan Motorik Kasar Anak Usia Dini. *Jurnal Bungamputi*, *6*(0), 14–21.

Bisma, N., Desmita, D., Kharisma Diyenti, A., Adha Karim, N., Zalzabila, Z., Yulia, N., Warmansyah, J., & Sulong, K. (2023). The Influence of Audio Stories on Enhancing Digital Literacy In Early Childhood: A Survey Study. *Indonesian Journal of Early Childhood Educational Research (IJECER)*, *2*(2), 57. https://doi.org/10.31958/ijecer.v2i2.11526

Bodrova, E., & Leong, D. J. (2019). Making Play Smarter, Stronger, and Kinder Lessons from Tools of the Mind •. *American Journal of Play*, *12*(1), 37–53.

Brandes-Aitken, A., Braren, S., Swingler, M., Voegtline, K., & Blair, C. (2019). Sustained attention in infancy: A foundation for the development of multiple aspects of self-regulation for children in poverty. *Journal of Experimental Child Psychology*, *184*, 192–209. https://doi.org/10.1016/j.jecp.2019.04.006

Churiyah, C., & Hasibuan, R. (2025). Exploring the Implementation and Success of Nutrition Education Programs in Early Childhood Education Settings. *Journal of Islamic Education Students (JIES)*, *5*(1), 135. https://doi.org/10.31958/jies.v5i1.14770

Creswell, J. W. (2014). Research Design: Qualitative, QuCreswell, J. W. (2014). . Research design Qualitative quantitative and mixed methods approaches. https://doi.org/10.1007/s13398-014-0173-7.2antitative,. *Research Design Qualitative Quantitative and Mixed Methods Approaches*.

Dimitriadis, G., & Kamberelis, G. (2020). Jerome BRUNER. *Theory for Education*, 85–90. https://doi.org/10.4324/9780203958933-15

Farista, D., & Priyanti, N. (2023). Fostering Children's Expressive Language through the

Enchanting Journey of Storytelling Roll Books. *Journal of Islamic Education Students (JIES)*, *3*(2), 83. https://doi.org/10.31958/jies.v3i2.10854

Febriani, H., Anesty Mashudi, E., & Tewari, V. (2023). The Importance of the Roles of Parents and Teachers in Cultivating Honesty in Early Childhood Characters. *Indonesian Journal of Early Childhood Educational Research (IJECER)*, *2*(2), 71. https://doi.org/10.31958/ijecer.v2i2.11499

Frye, D., Baroody, A. J., Burchinal, M., Carver, S. M., Jordan, N. C., & McDowell, J. (2014). *Teaching math to young children: A practice guide (NCEE 2014-4005)*. Department of Education.

Halimah, L., Arifin, R. R. M., Yuliariatiningsih, M. S., Abdillah, F., & Sutini, A. (2020). Storytelling through "Wayang Golek" puppet show: Practical ways in incorporating character education in early childhood. *Cogent Education*, *7*(1). https://doi.org/10.1080/2331186X.2020.1794495

Handayani, S., Sumarno, S., & Haryati, Y. (2017). UpayaMeningkatkan Kemampuan Kognitif Dalam Memperkenalkan Konsep Pengukuran Anak Usia Dini Melalui Metode Bermain Peran. *Jurnal Karya Pendidikan Matematika*, *4*(1), 43. https://doi.org/10.1017/CBO9781107415324.004

Hassinger-Das, B., Hirsh-Pasek, K., & Golinkoff, R. M. (2017). The Case of Brain Science and Guided Play: A Developing Story. *YC Young Children*, *72*(2), 45–50.

Isbell, E., Calkins, S. D., Swingler, M. M., & Leerkes, E. M. (2018). Attentional fluctuations in preschoolers: Direct and indirect relations with task accuracy, academic readiness, and school performance. *Journal of Experimental Child Psychology*, *167*, 388–403. https://doi.org/10.1016/j.jecp.2017.11.013

Isbell, R., Sobol, J., Lindauer, L., & Lowrance, A. (2004). The Effects of Storytelling and Story Reading on the Oral Language Complexity and Story Comprehension of Young Children. *Early Childhood Education Journal*, *32*(3), 157–163. https://doi.org/10.1023/B:ECEJ.0000048967.94189.a3

Iskandar, E., Irawati, I., & Chai, N. (2025). Effective Classroom Management : Proven Engagement and Minimize Discruptions Techniques to Fostr. *Journal of Educational Teaching and Trends*, *1*(1), 28–41.

Jannah, R., Mulyanti, F., & Pasco Bayan, R. (2023). Improving The Child's Moral Development through The Storytelling Method on Children 5–6 Years Old. *Indonesian Journal of Early Childhood Educational Research (IJECER)*, *1*(2), 48. https://doi.org/10.31958/ijecer.v1i2.6923

Lestariyana, R. P. D., & Widodo, H. P. (2018). Engaging young learners of English with digital stories: Learning to mean. *Indonesian Journal of Applied Linguistics*, *8*(2), 489–495. https://doi.org/10.17509/ijal.v8i2.13314

Mayer, R. E. (2014). Introduction to Multimedia Learning. In R. E. Mayer (Ed.), *The Cambridge Handbook of Multimedia Learning* (2nd ed.). Cambridge University Press.

Nicolopoulou, A., Cortina, K. S., Ilgaz, H., Cates, C. B., & de Sá, A. B. (2015). Using a

narrative- and play-based activity to promote low-income preschoolers' oral language, emergent literacy, and social competence. *Early Childhood Research Quarterly*, *31*, 147–162. https://doi.org/10.1016/j.ecresq.2015.01.006

Nurfahma, S. A., Saputri Imran, K., Rohayani, F., & Qadafi, M. (2024). Implementation of the Integrative Holistic Program in Early Childhood Education. *Indonesian Journal of Early Childhood Educational Research (IJECER)*, *3*(1), 23. https://doi.org/10.31958/ijecer.v3i1.12209

Nurlaila, N., Husni, S. N., Warmansyah, J., Sari, M., Yuningsih, R., & Trimelia Utami, W. (2025). Animated Video Development Using Macromedia Flash for Arabic Vocabulary Recognition in Early Childhood Education. *Indonesian Journal of Early Childhood Educational Research (IJECER)*, *4*(1), 82. https://doi.org/10.31958/ijecer.v4i1.14967

Pears, K. C., Carpenter, L., Kim, H. K., Peterson, E., & Fisher, P. A. (2018). Kindergarten Transition and Readiness. *Kindergarten Transition and Readiness*, 283–302. https://doi.org/10.1007/978-3-319-90200-5

Piaget, J. (1952). *The sixth stage: The invention of new means through mental combinations.*

Piaget, J. (1964). Part I: Cognitive development in children: Piaget development and learning. *Journal of Research in Science Teaching*, *2*(3), 176–186. https://doi.org/10.1002/tea.3660020306

Purnama, S., Ulfah, M., Ramadani, L., Rahmatullah, B., & Ahmad, I. F. (2022). Digital Storytelling Trends in Early Childhood Education in Indonesia: A Systematic Literature Review. *JPUD - Jurnal Pendidikan Usia Dini*, *16*(1), 17–31. https://doi.org/10.21009/JPUD.161.02

Rafiola, R. H., Anggraini, D., & Sari, V. N. (2022). The Effectiveness of Storytelling Method To Increase Language Development In Early Childhood. *JED (Jurnal Etika Demokrasi)*, *7*(3), 461–471. https://doi.org/10.26618/jed.v7i3.8140

Ridwanulloh, M. U., Wulandari, A. F., Fitriana, T. N., Muhammad, A., Yusal, Y., & Lestari, F. (2024). The Transition from Implementing the K-13 Curriculum to the Merdeka Belajar Curriculum in Elementary Schools. *Journal of Islamic Education Students (JIES)*, *4*(1), 51. https://doi.org/10.31958/jies.v4i1.11887

Sari, M., Warmansyah, J., Syaiful, L. D., & Utami, W. T. (2022). Environmental care characters in early childhood: The project method effects. *Aṭfālunā Journal of Islamic Early Childhood Education*, *5*(1), 37–46. https://doi.org/10.32505/atfaluna.v5i1.4334

Sujiono, Y. N. (2014). *Metode Pengembangan Kognitif*. Universitas Terbuka.

Vygotsky, L. S. (1978). Mind and Society: The Development of Higher Psychological Processes. In *Harvard University Press*.

Warmansyah, J., & Nirwana, E. S. (2023). The Effect of Storytelling Methods and Self-Confidence Children's Expressive Language Skills. *Ta'dib*, *26*(1), 29–41. https://doi.org/:10.31958/jt.v26i1.5927

Warmansyah, J., Sari, M., Yuningsih, R., Wiliany, S., Siregar, R. S., & Zalzabila, Z. (2025). Capacity Building for Raudhatul Athfal Teachers in Tanah Datar through the

Development of Merdeka Curriculum Teaching Modules. *Journal of Community Service in Early Childhood Education*, *1*(1), 43–56. https://doi.org/00.00000/jcosece.vxix.xxx

Warmansyah, J., Yuningsih, R., Selva Nirwana, E., Ravidah, Putri, R., Amalina, & Masril. (2023). The Effect of Mathematics Learning Approaches and Self-Regulation to Recognize the Concept of Early Numbers Ability. *JPUD - Jurnal Pendidikan Usia Dini*, *17*(1), 54–81. https://doi.org/10.21009/JPUD.171.05

Wijaya, I. K. W. B., & Dewi, P. A. S. (2021). Pengembangan Kecerdasan Naturalis Anak Usia Dini melalui Model Pendidikan Lingkungan Unesco. *Ideas: Jurnal Pendidikan, Sosial, Dan Budaya*, *7*(3), 97. https://doi.org/10.32884/ideas.v7i3.449

Wulandari, A., Kurniati, L., Hanifa, N., & Yuningsih, R. (2025). Enhancing the Success of Toilet Training for Children Aged 2-3 Years at the UIN Mahmud Yunus Batusangkar Laboratory Daycare. *Journal of Community Service in Early Childhood Education*, *1*(1), 9–20. https://doi.org/00.00000/jcosece.vxix.xxx

Wulandari, A., Warmansyah, J., Fitriani, W., & Sari, M. (2025). The Effect of Alphabet and Picture Box Media (KOFABAR) on Early Literacy Skills. *Sikola: Journal of Instruction Studies*, *1*(1), 27–40.

Yang, Y. T. C., & Wu, W. C. I. (2012). Digital storytelling for enhancing student academic achievement, critical thinking.; Learning motivation: A year-long experimental study. *Computers and Education*, *59*(2), 339–352. https://doi.org/10.1016/j.compedu.2011.12.012