



Lego Games in Increasing Creativity in Early Childhood

Ulfia Fitri Yanti¹, Luluk Mukaromah²

Universitas Islam Kh. Achmad Muzakki Syah Jember ¹²

ulfiafitriyanti@gmail.com, lulukmukaromah743@gmail.com¹²

Abstract

This study aims to analyze the role of lego games in improving the creativity of early childhood at RA Nurul Jadid. Creativity is an important aspect in children's growth and development that can be developed through directed play activities. This study uses a qualitative approach with observation, interview and documentation techniques on children's activities in early childhood education institutions, especially the 4-5 year age group. The focus of this study was directed at class A which consisted of 21 students. The results of the study showed that the use of lego was significantly able to stimulate the development of children's creativity, both in terms of physical motoric, cognitive, artistic, and social emotional development. Children are able to create new shapes, think logically, and interact and work together with their peers. Lego media is effectively used as a fun and meaningful learning medium.

Keywords: Creativity, Lego Games, Early Childhood.

Introduction

Early childhood education cannot be separated from play activities, the learning process carried out by children at this age is generally closely related to play activities. For them, playing is the main activity that needs to be done regularly. When the need for play is met, this will indirectly have a positive impact on children's growth and development. Based on a number of studies, play has been proven to be the most effective learning method to support children's growth and development. This is in line with the phrase "Play while learning" which means that through play children are actually undergoing a learning process (Fransisku, et.al, 2024).

Play-and-learning activities are a basic component in the process of stimulating aspects of early childhood development. Providing direct stimulation through the use of learning media and game media has a significant influence on the development of early childhood aspects. Such as cognitive, psychomotor, and creative and artistic abilities in children. All of these aspects contribute directly to the formation of early childhood creativity (M. Fadillah, 2019).

According to Santrock (2008), creativity can be understood as the ability of individuals to think about things in an innovative way and come up with original solutions to various problems. Basically, creativity reflects a person's capacity to create new ideas or works that are different from what already existed. This view is in line with Moreno's opinion in (Slameto, 2010) who states that the essence of creativity does not lie in the discovery that is completely new to the world, but in the creation of something that is felt new by the individual himself, even though he may already be known by others.

According to Santrock (2008), creativity can be understood as the ability of individuals to think about things in an innovative way and come up with original solutions to various

problems. Basically, creativity reflects a person's capacity to create new ideas or works that are different from what already existed. This view is in line with Moreno's opinion in (Slameto, 2010) who states that the essence of creativity does not lie in the discovery that is completely new to the world, but in the creation of something that is felt new by the individual himself, even though he may already be known by others.

Another study conducted by Anggil, et.al, (2024) shows that early childhood creativity can develop through lego play activities, the efforts made in this development include providing various types of legos, encouraging children to communicate and interact with their peers, introducing innovations in lego building shapes, and providing enough time for children to explore their ideas. In addition, storytelling activities and playing experiences are also an important part of the creativity stimulation process. Overall, these studies confirm that lego games are one of the effective means to develop various aspects of child development, especially in increasing creativity in early childhood.

RA Nurul Jadid as an early childhood education institution, has a strategic role in building an innovative learning environment to support the development of students' creativity. Early childhood creativity is a crucial aspect that needs to be facilitated through a learning environment that encourages free exploration. However, based on initial observations, the implementation of learning at RA Nurul Jadid is still dominated by a conventional approach, with an emphasis on activities and learning that are always guided and guided by educators. This activity tends to limit children's movement space to create independently, so it has the potential to hinder the optimization of their creativity development. This is contrary to the theory that children's creativity will develop optimally when given the opportunity to interact and explore the environment and objects around them, using lego games can increase children's creativity through constructive activities that stimulate imagination and thinking skills in early childhood (Kuswanto, at. Aal. 2023).

Early childhood is a golden period for the development of various fundamental potentials, including creativity. Creativity in early childhood is not only reflected in artistic work but also in their ability to think divergently, solve problems, and express ideas originally. Unfortunately, many learning activities in early childhood education institutions still fail to provide adequate space for exploration and imagination. Instruction-dominated and overly structured learning approaches often limit children's initiative and spontaneous thinking.

One effective medium for fostering creativity in children is constructive play, such as Lego games. Lego play is not only enjoyable but also challenges children to design, build, and revise their creations independently or collaboratively. Lego serves as an educational tool that encourages children to explore shapes, colors, patterns, and solve problems imaginatively. Several studies have shown that Lego play supports cognitive, social, and emotional development in an integrated manner. Therefore, it is important to explore how Lego games can be implemented in early childhood learning and to what extent they influence the development of children's creativity. This study aims to gain a deep understanding of how Lego games can enhance creativity in early childhood, specifically among Class A students at RA Nurul Jadid. It also seeks to identify the forms of creativity that emerge during Lego play and to explore the

role of teachers and the learning environment in supporting children's creative processes through these activities.

Literature Review

Play is a natural medium for young children to learn and express themselves. One form of constructive play that has been proven effective in stimulating children's development is Lego games. According to Ghunu Bili, Lero Bili, and Kalumbang (2024), Lego play activities for children aged 5–6 significantly enhance their creativity, encompassing imaginative thinking, exploratory behavior, and problem-solving skills. The study showed that most children involved in Lego play reached the “highly developed” category in creative development.

This finding is supported by studies on preschoolers' spatial imagination. Children who play with Lego tend to build unique structures unconstrained by standard templates, demonstrating a high capacity for divergent thinking (Preschool, 2022). Spatial imagination, developed through Lego manipulation, strengthens the cognitive structures that underlie creativity. Theoretically, the learning through play approach explains that play, including Lego play, provides children with opportunities to explore, create, and construct new understanding through hands-on experiences. This type of play-based learning fosters the development of higher-order thinking skills, including creative and reflective thinking (UNICEF, 2018).

Furthermore, Lego play is also used in STEAM (Science, Technology, Engineering, Arts, and Mathematics) education, especially through the use of Lego WeDo 2.0. Fakhriyani et al. (2020) found that combining block-building activities with basic programming helps children develop both systematic and creative thinking. This shows that creativity can be cultivated not only in visual arts but also in logical and computational domains. Lego is also implemented in the Lego Serious Play method, which encourages children to build models as representations of ideas, emotions, and personal narratives. Although originally developed for adults, this method has proven effective in helping elementary-aged children develop metacognitive and creative expression skills (James, 2016). Its adaptation for early childhood education can serve as a pedagogical strategy to foster symbolic idea exploration.

In addition to intrapersonal development, Lego play stimulates creativity through social interaction. According to Wikipedia (2025), block play improves collaboration and communication skills. Children learn to share roles, combine ideas, and resolve conflicts while building together, which are all aspects of social creativity. From a cognitive perspective, Saracho and Spodek (2008) state that manipulative activities such as Lego play help children understand concepts of size, shape, and pattern, while also enhancing problem-solving abilities. These activities strengthen the link between creativity and executive functions such as planning and cognitive flexibility.

Research from UIN Suka (2022) highlights the importance of balancing structure and freedom in Lego play. Children who are allowed to play with minimal adult intervention tend to display more original and diverse ideas. This supports the view that open-ended environments

are more conducive to creative development. Finally, findings from the LEGO Foundation reinforce the importance of play in children's creativity. Active play with Lego is not merely entertaining; it is a form of experiential learning that builds essential foundations for critical, innovative, and imaginative thinking (Coordikids, 2024). Thus, integrating Lego games into early childhood curricula is a strategic approach to support the holistic development of creativity.

Play is the main activity of early childhood which is very important for the development of various abilities. According to Vygotsky (2023), play helps children develop cognitive and social skills through interaction with the environment and peers. Therefore, playing is not just entertainment, but also an effective learning process for children. Creativity is the ability to generate new and original ideas that are different from existing ones (Gulilford, 2023). In early childhood, creativity can be seen through their activities in drawing, storytelling, and playing. The development of creativity from an early age is very important because every child has unique potential that needs to be stimulated through the right learning methods (Alzatul et al., 2023).

Piaget (2023) states that children aged 2-7 years are in the preoperational stage, where children begin to use symbols and imagination in thinking. At this stage, constructive games such as lego are perfect because they support the child's cognitive development and creativity. Educational games designed to support children's learning are very effective in stimulating creativity (Fadillah, 2023). Lego as an interactive learning medium allows children to express their ideas and imagination by building various shapes according to their wishes (Rani, 2023).

Several studies have shown that the use of lego can significantly increase children's creativity and critical thinking skills (Janes & Junita, 2023). Playing lego also helps the development of children's fine motor skills and social abilities through interaction with peers (Anggil et.al, 2023). Kuswanto et.al, (2023) added that lego media provides optimal stimulation for the development of imagination and problem-solving in early childhood.

Methods

This study uses a descriptive qualitative approach with the aim of gaining a deep understanding of the phenomena that occur in the RA Nurul Jadid environment. This approach allows researchers to dig into data naturally and holistically through direct interaction with the research subject. The focus of this research is directed at class A which totals 21 students.

This research was carried out at RA Nurul Jadid, Curah Takir Village, Tempurejo District, Jember Regency. The research subject is determined purposively, that is, it is chosen based on the consideration of having experience, understanding, and direct involvement in the research focus. The data collection technique is carried out through several techniques, namely participatory observation, to directly observe the learning process and interaction between parties in the RA environment. In-depth interviews were conducted in a semi-structured manner

with informants, teachers, and principals of RA schools to gain personal and contextual perspectives. As well as analysis of student documents.

To ensure the validity of the data, this study employs triangulation techniques, namely source triangulation and technique triangulation. Source triangulation is conducted by comparing data obtained from different informants, such as students, teachers, and the principal, while technique triangulation is carried out by combining various data collection methods, including observation, interviews, and documentation analysis. This triangulation process helps enhance the credibility and trustworthiness of the research findings by reducing subjectivity and ensuring consistency across data sources.

The data analysis technique follows the interactive model proposed by Miles and Huberman, which includes three main stages: data reduction, data display, and conclusion drawing or verification. In the data reduction stage, the researcher selects, focuses, simplifies, and transforms raw data from the field into relevant categories. Then, the data is presented in a descriptive and thematic form to facilitate interpretation. Finally, conclusions are drawn by identifying patterns and meanings from the data, which are continuously verified throughout the research process to maintain analytical accuracy.

Result/Findings

Based on the results of observations that have been carried out by researchers, researchers found that the use of lego media in developing children's creativity has a very positive impact. All aspects of child development showed significant progress. Further description of the results of this research is explained as follows; At RA Nurul Jadid, various educational game tools are provided in each class, one of which is lego media. Each class has a variety of different game tools and learning media. The focus of this research is directed at class A which totals 21 students. Before playing, children first take part in learning activities. After the learning activities are completed, they are given the freedom to choose the games available in the class, both lego games and other games according to their interests.



Figure 1. Children's activities playing lego

The researchers directed the children to arrange the lego blocks according to their imagination. Furthermore, children's creativity is assessed based on the shapes of the buildings they make. Then the children arranged various models such as towers, tall buildings, trains, and various other shapes. In addition to creativity, significant development is also seen in the aspect of skill development, namely in the aspect of fine motor development, where children are able to choose suitable lego pieces, arrange them according to instructions, and arrange the lego pieces into a complete structure and show the work.

In terms of cognitive development, children show the ability to recognize the shape and color of lego blocks, as well as remember the steps they took to build them. In terms of social-emotional development, children show that playing lego significantly improves their cooperative skills, and encourages them to communicate, and share with friends. The development of creativity in the field of art is also evident, children are able to combine various shapes and colors of lego, creating different shapes of buildings according to their imagination.

In the picture above, it is clear that children are assembling Lego with passion, concentration, focus, confidence and precision. Where their creativity will grow on its own when doing Lego assembling activities. Lego games are one of the effective media in encouraging the development of creativity in children. Through assembling and designing shapes from Lego blocks, children not only practice coordinating hand and eye movements, but also explore colors, shapes, and spatial structures. This process provides space for children to express their ideas and imagination creatively. Play media that involves constructions such as Lego can stimulate various potentials of children, especially in developing their creativity and thinking skills. There are several supporting and inhibiting factors for the development of creativity in early childhood in the educational environment.

Discussion

The development of creativity in early childhood in school is influenced by several interrelated factors. One of the main factors is the application of varied and innovative learning methods. For example, free drawing, play, and games that can stimulate different aspects of development. This kind of learning allows children to express ideas freely and dare to try new things. The use of the surrounding environment as a learning medium also helps to strengthen children's creativity stimulation (Nasution, 2023).

At RA Nurul Jadid one of the supporting factors for the development of children's creativity is by providing freedom in carrying out activities, for example, children are given the freedom to choose the game media they are interested in, and are allowed to design games according to their imagination, for example, children can assemble legos without the guidance of teachers, freedom like this is one of the important factors in supporting optimal children's development when playing. Children are given the opportunity to explore and interact directly with the various objects around them.

The development of creativity in early childhood is an important aspect in the formation of character and life skills in the future, one of the main obstacles comes from the low competence of teachers in managing learning activities that support the development of creativity, teachers who do not have a comprehensive understanding of the importance of creativity tend to apply rigid and less varied learning, so that children's space for expression is limited. In addition, limited educational facilities and infrastructure are also obstacles in creating a conducive learning environment, and inadequate room facilities often cause children to not have the opportunity to develop their imagination optimally (Suhendra & Yulianti 2023).

Based on the results of the study, the researcher found that one of the inhibiting factors for the development of creativity at the RA Nurul Jadid institution is the limited space that is inadequate, children play and learn in the classroom, because the hot condition of the school yard makes them only stay in the classroom during break hours, this often disturbs their friends who are focused and have not completed their assignments, This condition is also one of the obstacles in the development of children's creativity, because of the limited space for them to develop their imagination optimally.

The Urgency of Children's Creativity at RA Nurul Jadid

Early childhood is a critical period in the development of thinking skills and self-expression. At an early age, a child's brain develops rapidly so it is very important to provide the right stimulation, especially in terms of creativity. Developing creativity from an early age is essential because it is the foundation of thinking skills that are needed in the future, such as critical, innovative, and collaborative thinking. When children are given the freedom to explore, try things, and express ideas independently, they will grow into more confident individuals and ready to face challenges (craft, 2005).

Therefore, early childhood education needs to be directed to create an environment that supports the optimal development of creativity. From the results of research at RA Nurul Jadid, the use of lego media has been proven to stimulate children's creativity, imagination, concentration, and precision. Therefore, this media is very suitable to be applied in learning activities to increase students' motivation to learn. The activity of putting together legos creates a fun, safe, and stress-free learning atmosphere, thus encouraging children to express original ideas, try new things, actively ask questions and not be afraid to try and make mistakes. Overall, the use of lego media makes a positive contribution to the development of children's creativity. Children are encouraged to design shapes according to their imagination, as well as learn to manage time and adapt in completing the task of composing it. Thus, they are able to produce works that are neatly arranged, resemble real forms, and show creative values.

The rapid and complex challenges of the 21st century make developing creativity in early childhood essential. At RA Nurul Jadid, facilitating such development ensures that children are not merely passive recipients of knowledge but are equipped with the skills to think divergently and adaptively. Astuti and Aziz (2019) emphasize that integrated creative

development—blending science, arts, language, religion, and technology—is crucial to nurture holistic abilities in children.

Bogor-based studies highlight the critical role teachers play in facilitating student creativity. Zakiyyah & Kuswanto (2021) argue that teacher creativity in designing learning activities determines whether developmental goals are optimally reached. For RA Nurul Jadid, this means that educators must possess not only knowledge of child development but also inventive pedagogical skills to create playful, open-ended learning environments where children feel encouraged to explore and express.

Observations at RA Nurul Jadid show structured routines and teacher-led activities dominate the classroom interactions. While this offers consistency, it limits opportunities for spontaneous creativity. Fitriyani et al. (2022) report that child creativity flourishes when learning is practice-based, role-playing, storytelling, and play-based, supported by physical media, and evaluated via reflective dialogue. Furthermore, research indicates that early childhood is a "golden age" for creative development, requiring active stimulation from teachers and parents (Afnita, 2021). At RA Nurul Jadid, teacher guidance through scaffolding, probing questions, and material provision should be designed to empower children to experiment creatively. This ensures healthy intellectual, emotional, and social growth, preparing them better for future learning stages.

Conclusion

The results of the study showed that the use of lego game media had a significant impact on the development of early childhood creativity at RA Nurul Jadid. Playing with legos has been proven to be able to stimulate various aspects of children's development, especially creativity, through constructive activities that encourage children to express ideas, imagination, and the ability to think independently. In addition, Lego games also contribute to the development of cognitive, fine motor, social-emotional, as well as children's cooperative and critical thinking skills.

However, the development of children's creativity at RA Nurul Jadid still faces several obstacles, such as limited play spaces, inadequate facilities, and conventional learning approaches. These factors can limit children's freedom to express themselves and explore their potential optimally. Thus, more innovative and participatory learning strategies are needed, as well as the provision of a learning environment that supports free exploration. The targeted and consistent use of the lego median can be an effective solution in supporting the achievement of early childhood education goals, especially in developing creativity as an important foundation in character and skill formation, as well as supporting the creation of a generation that is innovative, adaptive, and ready to face future challenges.

References

- Afnita, J. A. (2021). Kunci-Kunci Dalam Pengembangan Kreativitas Anak Usia Dini. Raudhatul Athfal: Jurnal Pendidikan Islam Anak Usia Dini, 5(1), 75–95.

doi:10.19109/ra.v5i1.7084

- Alzatul Fakrihah Et.al, (2022). “Meningkatkan Kreativitas Anak Usia Dini Melalui Metode Pembelajaran Loose Part”, Jurnal Pendidikan Anak Usia Dini. 3(1). Hal-3
- Anggil Et.al, (2024). “Permainan Lego Upaya Pengembangan Kreativitas AUD”, Jurnal Pelita PAUD, 8(2)
- Astuti, R., & Aziz, T. (2019). Integrasi Pengembangan Kreativitas Anak Usia Dini di TK Kanisius Sorowajan Yogyakarta. Jurnal Obsesi: Jurnal Pendidikan Anak Usia Dini, 3(2). doi:10.31004/obsesi.v3i2.99
- Children’s Spatial Imagination when Playing with Lego Blocks. (2022). Preschool, 3(1), 49–61.
- Coordikids. (2024). LEGO® Study Demonstrates Importance of Play in Early Childhood Development. <https://www.coordikids.com/lego-play-study>
- Craft, A. (2005). Creativity In Schools: Tensions And Dilemmas. Routedge
- Fadillah, M. (2023). Stimulasi aspek perkembangan anak usia dini melalui permainan edukatif. *Jurnal psikologi pendidikan*, 4(1), 30-40
- Fakhriyani, D., et al. (2020). Fostering Computational Thinking and Creativity in Early Childhood Education. <https://doi.org/10.1007/s10643-020-01030-z>
- Fitriyani, F., Rini, R., & Sofia, A. (2022). Pengembangan Kreativitas Anak di PAUD Alam Al Muttaqin. Jurnal Pendidikan Anak, Unila.
- Fransisku, At.Al. (2024) “Pemanfaatan Permainan Lego Untuk Mengembangkan Kreativitas Anak Usia 5-6 Tahun TK St. Mathilda Unika” Jurnal On Education. 6(3)
- Ghunu Bili, F., Lero Bili, D., & Kalumbang, A. A. K. (2024). Pemanfaatan Permainan Lego untuk Mengembangkan Kreativitas Anak Usia 5–6 Tahun TK St. Mathilda Unika Weetebula. Jurnal Obsesi: Jurnal Pendidikan Anak Usia Dini, 6(3), 17154–17163. <https://doi.org/10.31004/obsesi.v6i3.5644>
- Hajro, A. Y., & Subhi, M.R. (2023). *Pengembangan kreativitas peserta didik melalui pembelajaran berbasis game pada mata pelajaran pendidikan agama islam*. Muaddib: Jurnal Pendidikan Agama Islam, 1(02)
- Imroatun, N., et al. (2021). Implementasi Bermain Lego sebagai Pembelajaran Harian untuk Pengembangan Kreativitas Anak Usia Dini. Indonesian Journal of Early Childhood, 3(2). <https://doi.org/10.35473/ijec.v3i2.1005>
- James, A. (2016). Lego Serious Play: A tool for inclusive and reflexive learning? International Journal of Research & Method in Education, 39(3), 275–287. <https://doi.org/10.1080/1743727X.2016.1170116>
- Janes & Juwita, (2023). “Strategi Pembelajaran Efektif Melalui Permainan: Pengaruh Permainan Lego Dalam Meningkatkan Kreativitas Dan Kepandaian Pada Anak”. Jurnal Ilmiah Mutiara Pendidikan. 1(1)
- Janes, T., & Junita, R.(2023). Pengaruh permainan konstruktif terhadap kreatifitas dan

- motorik halus anak. *Jurnal anak dan pendidikan*, 7(3), 78-89
- Kuswanto, Dkk, (2023). "Permainan Lego: Upaya Pengembangan Kreativitas AUD". *Preschool: Jurnal Perkembangan Dan Pendidikan Anak Usia Dini*, 5(1)
- Kuswanto, E., Dewi, N., & Hasan, F. (2023). Pengaruh media permainan lego terhadap daya imajinasi dan kemampuan berpikir anak usia din. *Jurnal pendidikan kreatif*, 3(2), 60-72
- M. Fadillah, (2019). Buku Ajar Bermain Dan Permainan Anak Usia Dini. Jakarta: PRENADA MEDIA GRUB.
- Masganti At.Al, (2016). Pengembangan Kreativitas Anak Usia Dini (Teori Dan Praktek). Medan: PERDANA PUBLISHING. Hal-2
- Nasution, R. (2023). Lingkungan Sekitar Sebagai Media Belajar Anak Usia Dini. CDJ, Unuversitas Pahlawan.
- Piaget, J. (2023). *Developmental stages and symbolic play in early childhood*. *International journal of child psychology*, 12(2), 100-110.
- Rani, Astria, (2022). "Mengembangkan Kreativitas Anak Usia Dini Melalui Bermain". *Jurnal Pendidikan Dan Konseling*. 4(5)
- Rani, S. (2023). Penggunaan lego sebagai media pembelajaran dalam meningkatkan kreativitas anak usia dini. *Jurnal pendidikan inovatif*, 2(1), 14-25
- Santrock, (2008). Psikologi Pendidikan (Edisi Ke Tiga), Jakarta: Kencana Prenada Media Groub.
- Saracho, O. N., & Spodek, B. (2008). *Contemporary Perspectives on Mathematics in Early Childhood Education*. Charlotte, NC: Information Age Publishing.
- Slameto. (2010). Belajar Dan Factor-Faktor Yang Mempengaruhi Anak Usia Dini, Jakarta: Rinake Cipta.
- Suhendra, A., & Yulianti, N. (2023). "Keterbatasan Sarana Dan Implikasinya Terhadap Kreativitas Anak". *Jurnal Edukatif*.
- Suka, H. (2022). The Effect of Lego Games on Improving Children's Creativity Development. *Golden Age: Jurnal Ilmiah Tumbuh Kembang Anak Usia Dini*.
- Toy block. (2025). Wikipedia. https://en.wikipedia.org/wiki/Toy_block
- UNICEF. (2018). Learning through Play: Strengthening learning through play in early childhood education programmes. <https://www.unicef.org/documents/learning-through-play>
- Vygotsky, L. S. (2023). *The role of play in child development*. *Journal of Early childhood studies*, 8(1), 5-15
- Zakiyyah, N., & Kuswanto, K. (2021). Urgensi Kreativitas Guru PAUD dalam Memfasilitasi Perkembangan Anak. *Jurnal Pendidikan Tambusai*, 5(1), 1713–1717.