

Practical Strategies for Stimulating Creativity in Early Childhood: STEAM Approach, Parent Involvement, and Environmental Support

Ratna Anjani

Universitas Pendidikan Indonesia

Email: ratnaanjani@upi.edu

Abstract. This research aims to explore practical strategies that educators and parents can implement in stimulating early childhood creativity in Indonesia. Creativity plays an important role in children's cognitive, social and emotional development and is an essential skill in facing the challenges of the 21st century. Despite its importance, the development of creativity in early childhood in Indonesia still faces various barriers, including teachers' lack of understanding of creative teaching methods and parents' involvement in supporting an environment conducive to children's creativity. This research uses the literature review method by analyzing various relevant sources from national and international journals. The results show that the application of creative methods such as the STEAM (Science, Technology, Engineering, Arts, and Mathematics) approach, educational games, and art activities can effectively stimulate children's creativity. In addition, active involvement of parents and environmental support that supports exploration also play a significant role in the development of creativity. This research is expected to make theoretical and practical contributions in improving the quality of early childhood education in Indonesia through the implementation of more innovative creativity development strategies.

Keywords: *children's creativity, early childhood education, STEAM approach, creativity development.*

Abstrak. Penelitian ini bertujuan untuk mengeksplorasi strategi praktis yang dapat diterapkan oleh pendidik dan orang tua dalam menstimulasi kreativitas anak usia dini di Indonesia. Kreativitas memiliki peran penting dalam perkembangan kognitif, sosial, dan emosional anak, serta menjadi keterampilan esensial dalam menghadapi tantangan abad ke-21. Meskipun penting, pengembangan kreativitas pada anak usia dini di Indonesia masih menghadapi berbagai hambatan, termasuk kurangnya pemahaman guru terhadap metode pengajaran kreatif dan keterlibatan orang tua dalam mendukung lingkungan

yang kondusif bagi kreativitas anak. Penelitian ini menggunakan metode tinjauan pustaka dengan menganalisis berbagai sumber yang relevan dari jurnal nasional dan internasional. Hasil penelitian menunjukkan bahwa penerapan metode kreatif seperti pendekatan STEAM (Science, Technology, Engineering, Arts, and Mathematics), permainan edukatif, dan kegiatan seni mampu secara efektif menstimulasi kreativitas anak. Selain itu, pelibatan aktif orang tua dan dukungan lingkungan yang mendukung eksplorasi juga berperan signifikan dalam pengembangan kreativitas. Penelitian ini diharapkan dapat memberikan kontribusi teoretis dan praktis dalam meningkatkan kualitas pendidikan anak usia dini di Indonesia melalui penerapan strategi pengembangan kreativitas yang lebih inovatif.

Kata Kunci: *kreativitas anak, pendidikan anak usia dini, pendekatan STEAM, pengembangan kreativitas.*

Introduction

Early childhood, which is in the age range of 0-6 years, is a very crucial age group in human development. During this period, which is often referred to as the “golden age”, children's physical, cognitive, social and emotional development takes place at a rapid pace, forming the basis for their future abilities and character (Aprianti & Sugito, 2022; Anjani et al., 2023). One aspect of development that has received increasing attention in various countries is creativity, which is considered to have a significant impact on critical thinking, problem solving, and innovation-essential skills to face the global challenges of the 21st century (Hartono et al., 2022).

Although the importance of creativity has been recognized globally, its development in Indonesia, particularly in early childhood education (ECED), still faces significant challenges. Some countries, such as Finland and Singapore, have adopted the STEAM (Science, Technology, Engineering, Arts, and Mathematics) approach as part of their efforts to encourage innovation and creativity among children. However, in Indonesia, the adoption of this method is still hampered by the lack of understanding and adequate training for early childhood teachers (Sit & Rakhmawati, 2022; Lestari, 2024). Teachers often still use conventional learning methods that do not stimulate children's imagination and creativity, thus limiting children's potential to develop optimally (Yuliantina, 2023).

In addition to problems at the educator level, parents' involvement in supporting children's creativity is also a challenge. Research shows that parents have a

key role in shaping an environment conducive to the development of children's creativity (Mahardika, 2023). However, not all parents have the necessary knowledge or skills to create an environment that stimulates creativity. Training and counseling for parents need to be improved so that they can play a more active role in developing children's creativity at home (Besan, 2022).

In addition, the development of creativity through interesting learning methods and media such as educational games and art activities—for example, shaping clay or using loose parts—has been proven effective in stimulating children's imagination (Desi & Jaya, 2021; Fauziah, 2022). Unfortunately, these methods have not been widely applied in daily practice in Indonesian PAUD. This suggests a gap between theory and practice in the field, which requires solutions in the form of training for teachers and increased collaboration between schools and families.

In Indonesia, studies on early childhood creativity development are still relatively limited, especially in providing practical guidance for educators and parents. Research in various countries shows that creativity not only contributes to academic achievement but also to children's social adaptability and readiness to face future challenges (Ariany et al., 2023). Therefore, there is a need for more research that focuses on exploring practical strategies that can be applied by educators and parents to stimulate children's creativity.

This study aims to fill the gap by exploring practical strategies that can be applied by educators and parents in stimulating early childhood creativity in Indonesia. The research focuses on (1) understanding early childhood creativity; (2) the importance of creativity in children's development; (3) the characteristics of creativity in early childhood; (4) factors that influence creativity; (5) types of creativity; (6) the benefits of developing creativity; (7) the process of developing children's creativity; and (8) the function of creativity in early childhood education.

Thus, this research is expected to make theoretical and practical contributions to the development of early childhood creativity in Indonesia, as well as a reference for educators and parents in creating an environment conducive to creativity. The results of this study are also expected to provide practical implications for creativity-oriented early childhood education policies, which in turn have the potential to improve the quality of education in Indonesia as a whole.

Method

This research uses the literature review method to explore practical strategies that educators and parents can implement in stimulating early childhood creativity in Indonesia. Literature review was chosen because it allows researchers to collect and analyze secondary data from various studies relevant to this topic.

1. Data sources

Data were collected from secondary sources indexed in national and international scientific journals, such as *Google Scholar*, *Scopus*, and *Web of Science*, as well as other relevant sources. The literature selected should address early childhood creativity, the role of educators and parents, and creativity development methods, including the STEAM approach.

2. Inclusion and exclusion criteria

Inclusion Criteria: (a) articles published within the last 10 years (2015-2024); (b) focus on early childhood creativity, including understanding creativity, the importance of creativity in child development, characteristics of creativity, factors that influence creativity, types of creativity, benefits of creativity development, creativity development process, and the function of creativity in early childhood education; and (c) articles that discuss the STEAM approach or other methods in creativity development.

Exclusion Criteria: articles that do not focus on early childhood creativity development or are not relevant to the Indonesian educational context will be excluded from this review.

3. Data collection procedure

The data collection process was conducted through searching national and international journal databases using keywords such as “early childhood creativity”, “creativity development in early childhood education”, “role of educators and parents in creativity”, and “STEAM approach”. Each article was evaluated based on the relevance of the topic through the abstract, then reviewed in depth to determine suitability to the research focus.

4. Data analysis

Data were analysed using a thematic analysis approach, where articles were reviewed to identify key themes such as the characteristics of children's creativity, factors that influence its development, and the roles of various parties. The analysis was conducted manually with an emphasis on recurring themes and gaps in the literature related to early childhood education in Indonesia.

Results and Discussion

Definition of early childhood creativity

Creativity is a complex and multidimensional concept. Although there is no universally agreed definition, many experts agree that the element of “novelty” is an important component of creativity (Alwinda, 2020). In addition, creativity must produce practical and innovative solutions. This is in line with the revised Bloom's Taxonomy theory by Anderson and Krathwohl, which places creativity as the highest ability in the cognitive domain, including idea development, solution planning, and solution creation (Hardiyanti, 2020).

In the context of early childhood, creativity has a very important role for their development. According to Ulfa (2022), children who are active in exploration and creation tend to have higher self-confidence, good social skills, and stronger mental resilience. In addition, creativity also plays an important role in children's character building. Therefore, support from teachers and parents is needed to facilitate children's interests and talents. This can be realized through providing adequate facilities and an environment that supports the development of their creativity (Mayar et al., 2022; Ulfa & Naimah, 2020). Furthermore, research shows that an environment that stimulates exploration and social interaction can strengthen children's creativity (Rahayu et al., 2020).

The development of creativity in early childhood is an important aspect of education that can be influenced by a variety of factors, including family environment, culture and technology. In the context of schools and families, there are many practical examples that show how creativity can be developed. For example, research shows that Montessori education methods can improve children's creative thinking skills compared to traditional education methods. Children who learn in a Montessori environment show higher scores in divergent and convergent creativity tests (Denervaud et al., 2021). In addition, traditional games such as Ba-a-anakan and Ba-ka-kapalan have also proven effective in developing children's creativity, as these games encourage social interaction and imagination (Khalidah, 2022).

Cultural factors also play an important role in the development of children's creativity. Cultural and educational contexts can influence how creativity develops in

children. In addition, a supportive family environment, such as parental warmth and a positive parenting style, also contributes to children's creativity tendencies (Liu et al., 2022; Ren et al., 2017).

Creativity in children is different from creativity in adults. In adults, creativity is often defined as a combination of expertise, skills and intrinsic motivation (Putra, 2021). Creative adults usually show high technical skills, the ability to think openly, and perseverance in completing tasks (Hasanah, 2021). In contrast, creativity in children is more visible in the form of exploration, experimentation, and curiosity. This expression of creativity often appears in activities such as storytelling or playing drama (Sumardani & Muhid, 2020). Creative children generally show good interaction skills, perseverance, and a desire to continue learning (Khadijah & Amelia, 2020).

Two main aspects of children's creativity are flexibility and fluency. Flexibility refers to a child's ability to use multiple approaches in solving problems, while fluency relates to the effective application of tools or methods in the problem-solving process (Khadijah & Amelia, 2020). For example, when a child uses various methods such as climbing or finding a stick to save a kite stuck in a tree, this shows their problem-solving skills and creativity in facing challenges (Musfiroh in Ulfa, 2022).

It is also important to understand the development of creativity at each stage of a child's life. In preschool age, children tend to show high creativity through imaginative play and exploration. As children get older, their creativity can be influenced by educational experiences and social interactions. For example, the use of interactive technologies in learning can increase children's engagement and extend their attention span, which in turn can support the development of creativity (Miller, 2018). However, inappropriate use of technology can also have negative impacts, making it important for parents and educators to supervise and guide children's use of technology (Aral & Kadan, 2023).

Overall, the development of early childhood creativity is a fundamental aspect that must be supported by a positive environment, both from families and schools. Understanding the interaction between various factors, such as educational methods, family environment, culture and technology, can help educators and parents create an environment that supports the optimal development of children's creativity (Fakhriyani, 2016; Rahmat & Sum, 2017; Astuti, 2023). Thus, an environment that supports children's exploration and creation is essential in developing skills that will help them face various challenges in the future.

The importance of creativity development for early childhood

Developing children's creativity is a crucial aspect of early childhood education, especially since creativity is a much-needed skill in the 21st century. Creativity not only helps children in adapting to rapid changes, but also in solving problems and thinking innovatively. Children begin to develop their creativity from the age of 3-4, when they engage in play that uses real objects as a basis for building imagination and self-expression (Fakhriyani, 2016). At this stage, play plays an important role in stimulating creativity, as children learn to express themselves and imagine through interaction with the surrounding environment.

Apart from games, the social environment also has a significant influence on the development of children's creativity. According to Hardiyanti (2020), children often imitate the professions they see around them, such as teachers or doctors. This shows how influential the social environment is in supporting the development of creativity. By imitating the roles they observe, children not only learn new skills, but also develop their imagination. Therefore, an environment that supports children's freedom to explore different roles is very important. This fine transition from play to social influence demonstrates the link between two key factors in the development of creativity.

Children's creativity can develop optimally in an environment that gives them creative freedom. However, rules that are too strict in the learning process can inhibit creativity. Fajriyah (2021) explains that restrictive rules, such as prohibitions on playing inside the house or restrictions on physical movement, can reduce children's freedom to express themselves. This shows the need for a balance between freedom and limits applied in the teaching and learning process. With enough freedom in play and learning, children can express themselves naturally and develop their creativity without excessive restrictions.

Research shows that rules that limit children's creative freedom can have a significant drawback. For example, research by Paek et al. (2019) showed that adherence to classroom rules can inhibit children's expression of creativity, especially in girls who are more vulnerable to teacher expectations. In this context, it is important to consider concrete case studies that show how strict educational policies can reduce children's opportunities to innovate and create. For example, in some schools that

implement a highly structured curriculum, children often show lower levels of creativity compared to those who learn in a more flexible and supportive environment (Beghetto, 2014). Therefore, creating a learning environment that supports creative freedom is essential to encourage innovation.

Early childhood creativity development is an important aspect of education that can be influenced by different educational policies and approaches. Several case studies from countries with different education systems show how a supportive learning environment can enhance children's creativity.

First, the Finnish education system is renowned for its approach that emphasizes child well-being and creativity. In Finland, children are not overburdened with standardized tests, allowing them the freedom to explore and create. This approach has proven effective, with Finland consistently ranking high in global education and innovation indices, suggesting a positive relationship between their educational approach and child creativity (Aerila, 2023). A flexible environment with minimal academic pressure allows children to innovate and optimally develop their imagination.

Furthermore, the Reggio Emilia approach from Italy also provides a strong example of how education can be designed to support creativity. In this model, children are considered active participants in the learning process and are given the freedom to choose projects that interest them. Research shows that children involved in this approach experience improvements in creativity, problem-solving ability and independence in critical thinking (Miftahurrohman et al., 2021). In this context, the teacher acts as a facilitator who supports children's initiatives, creating a collaborative and innovative learning atmosphere.

On the other hand, education policy in South Korea shows efforts to integrate creativity in the STEM (Science, Technology, Engineering, and Mathematics) curriculum. Although known for its high academic pressure, the South Korean government has developed a curriculum that incorporates technology-based projects that encourage collaboration and innovation among students. These projects, such as robotics competitions, provide opportunities for children to design innovative solutions to real problems, which in turn enhances their creativity (Gold & Elicker, 2020). This integration of technology in education shows that with the right approach, creativity can flourish even in a competitive educational context.

Singapore has also developed policies that support creativity through the “Nurturing Early Learners” framework. This framework emphasizes the importance of creative play, collaboration, and the use of technology in the development of children's thinking skills. With a structured approach, children are given opportunities to solve problems creatively, which contributes to the development of their creativity in an interactive learning environment (Britto et al., 2017). This policy shows that systematic support in early childhood education can produce positive outcomes in terms of creativity.

In the United States, the concept of “Makerspace” has been introduced in early childhood education to facilitate creativity. These spaces allow children to create using technology and art tools, such as 3D printers and robotic kits. Research shows that involvement in “Makerspace” programs enhances children's creativity, innovation and collaboration skills as they engage in activities that demand critical thinking and creative solutions (Johnston & Kervin, 2022). Thus, this project-based approach provides a space for children to explore new ideas and develop the necessary skills for the future.

Overall, creativity development should be a major focus in early childhood education. Creativity is not just a temporary skill, but an important foundation for children's growth in innovative thinking, adapting and problem-solving. By creating an environment that supports creative freedom and provides opportunities for children to express themselves, we can help them grow into creative, adaptive and innovative individuals. Moreover, investing in the development of early childhood creativity not only benefits their childhood, but also has a long-term impact on their future education and career.

Characteristics of creativity

According to Putra (2021), creativity in children has certain characteristics. Creative children are characterized by the uniqueness of ideas, growth of imagination, and developed fantasy. They also tend to be sensitive to stimuli and are not limited by conventional boundaries, so they have freedom and flexibility in their activities. Creative children also tend to be deeply involved in the activities they do. In addition, creativity in early childhood is characterized by the ability to form mental images and concepts about things that are not in front of them. They are also able to use fantasy and imagination to form concepts that are similar to the real world. Thus, creativity in

children has a significant impact on the way they think, imagine, and interact with their surroundings.

According to Putra (2021), a child shows creativity when they consistently demonstrate the following traits:

1. Exploration and openness: They actively explore diverse thoughts and options, play with their ideas, try new alternatives with a positive approach, and remain open to evaluating and modifying their thinking to achieve creative outcomes.
2. Critical reflection: They critically reflect on their thinking and behavior in every idea, argument, or response, as well as their actions and mindset.
3. Abstract thinking and relationship building: They have the ability to think abstractly and form new relationships beyond their usual associations, such as building relationships with individuals outside their immediate family.
4. Curiosity and questioning: They show curiosity, ask challenging questions, and do not stick to one answer or existing rules.
5. Curiosity and imagination: They maintain curiosity, constantly question things they want to understand, and actively explore their imagination by asking questions in search of answers or solutions.
6. Imaginative dreaming: They engage in imaginative dreams, can visualize various possibilities, and see things from different perspectives.

Meanwhile, according to Aulillah (in Hairiyah & Mukhlis, 2019), creative children show several main characteristics, including the ability to think fluently, flexibility in thinking, the tendency to explore their environment, curiosity, high curiosity, and interest in a variety of activities. These traits allow educators and parents to identify and nurture children's creativity. The development of children's creativity depends on understanding the factors that influence it, so parents and educators need to understand these influences.

Factors affecting creativity

According to Amabile in his book Utami Munandar, there are various elements that affect children's learning creativity. These factors include: (1) Parents' attitude towards children's creativity; and (2) Teaching strategies used by educators (Putra, 2021).

1. Parents' attitude towards children's creativity

Psychologists have argued for more than thirty years that parental attitudes and values have a major impact on children's creativity.

Children of parents who are in favor of giving freedom tend to show creativity. Creative children usually have parents who respect them as individuals, believe in their abilities, and value their uniqueness.

2. Teachers' teaching strategies

In daily teaching activities, teachers can utilize certain strategies to increase the level of creativity, such as incorporating games into learning activities, giving assessments, giving awards, and providing choices.

Creativity reaches its maximum potential when it is in an environment that fulfills two main requirements: a sense of security from outside interference and pressure, and psychological freedom. To nurture children's creativity, the first step is to build an environment that provides a sense of security and psychological freedom. Feeling safe is an external prerequisite for creativity. In a safe environment, the potential for creativity can flourish. Children who do not have a sense of security due to intimidation, fear of messing up, fear of failure, fear of reprimand, fear of criticism, or fear of ridicule will experience obstacles in the creative process. In contrast, children who feel safe will start the activity with a sense of openness and excitement. "Innovations" emerge when children feel no threat. Therefore, it is crucial for educators to foster a sense of security in early childhood education, including protection against harassment and ridicule from peers.

Educators and parents often unknowingly influence children's creativity, both positively and negatively. These influences significantly shape the development of children's creative abilities. Therefore, attitudes, behaviors, educational approaches and the environment play an important role in promoting the fertile growth of children's creativity.

There are several supporting factors for increasing early childhood creativity, namely:

1. Provision of space to create

To foster creativity in early childhood, it is very important to provide physical and conceptual space. This includes the appearance of the classroom, the materials used for activities, and the overall learning environment. Classrooms should be equipped with a variety of learning resources such as books, computers, games, puzzles and craft materials to support independent thinking. In addition, children

should have opportunities to collaborate with others in pairs or groups. Conceptually, classrooms should embrace the principles of allowing mistakes, encouraging experimentation, and promoting openness in taking risks (Annam in Putra, 2021).

2. Personal understanding

Creativity is a manifestation of individual uniqueness shaped by interaction with the environment. Through the expression of their unique individuality, students are expected to generate new ideas and innovative products. Therefore, educators need to respect and appreciate every personality and talent possessed by each student (Putra, 2021).

3. School environmental conditions

According to Munandar in Putra (2021), the environment that has the greatest impact on developing children's creativity is school. This is due to the educational interactions at school that encourage children to comply with existing rules. A quality school will prioritize creating a comfortable learning environment for its students.

4. Teacher attitude

According to Munandar (in Putra, 2021), teachers can develop student creativity by emphasizing intrinsic motivation. This is reinforced by the opinion that all students need to acquire creative skills at school through models of creative thinking and working. By providing autonomy to students within prescribed limits, teachers can facilitate the growth of intrinsic motivation that is essential for the development of student creativity.

The existence of educational practices that do not respect children's freedom is a phenomenon mentioned by Paulo Freire in his book "The Politic of Education; Culture, Power and Liberation" as an educational praxis that limits, not liberates (Danim in Putra, 2021). Truly liberating education cannot be simplified simply as an attempt by educators to force freedom on children. It does not depend on whether the educator's presence inside or outside the classroom liberates or restricts the children.

The inhibition of creativity in early childhood can be caused by several factors, including:

1. Inability to recognize and nurture creativity when it first appears.
2. Negative social attitudes. Unfavorable societal views that inhibit creativity, in the form of:
 - a. disapproval of creative children.
 - b. Lack of social support for creative endeavors.

3. Unfavorable home environment.
4. Unfavorable home conditions, such as:
 - a. limiting opportunities for exploration;
 - b. time constraints;
 - c. emphasis on family togetherness rather than individual creativity;
 - d. restrictions on imaginative activities;
 - e. an overly structured play environment; and
 - f. authoritarian and rigid parenting styles (Hurlock in Putra, 2021).

The development of children's creativity is not only influenced by the psychological environment, but also the physical environment. It is difficult for a child to play and learn comfortably in a cramped, stuffy and dark space. Similarly, a child's curiosity may be difficult to develop in an empty, neat and sterile environment. Creativity can flourish when there is a "push" or driving force, both from within, such as an internal drive, desire, motivation, or strong self-will, as well as from the external physical environment that nurtures and stimulates the child's thoughts, feelings, attitudes, and behavior.

Types in early childhood creativity

Children's creativity can be categorized into three main categories, namely: (Afnita & Putro, 2021).

1. Motor creativity

Motor creativity is an ability that many children have that is dominant in motor reflexes. This creativity manifests naturally through body movements such as dancing, jumping, and the like.

2. Imaginative creativity

Creativity is a child's ability to imagine. This type of creativity is considered unique, beautiful and special.

3. Intellectual creativity

Intellectual creativity is a type of creativity that is more prominent in a child's thinking ability. This thinking ability can actively produce work.

4. Combined creativity

Combined creativity is where the child stands out in two or three elements of creativity at once.

Benefits of creativity for early childhood

Creativity has a number of important benefits for early childhood development. A child with creativity will experience personal enjoyment and fulfillment which affects their development. In addition, creativity can also help children in: (1) creating games that are fun and make them feel happy; (2) achieving success in various fields; and (3) developing a sense of responsibility for the group (Hurlock & Elizabeth in Afnita & Putro, 2021).

In developing children's creativity with the aim that can introduce children to creative techniques that they are good at; teach children how to think creatively to find solutions to problems; make children more open to a variety of experiences; help children feel satisfied with their own achievements and appreciate the work of others; encourage children to be more creative in finding ideas, ideas, and alternative solutions; and develop new thinking skills, idea elaboration, tenacity; and patience in creating works that are satisfying to them (Afnita & Putro, 2021).

Early childhood creativity development process

In early childhood, creativity can be nurtured through playing, talking and thinking. Play creativity involves providing stimulating games such as wooden blocks and puzzles to encourage children's initiative and motivation. Speech creativity relates to the development of normal intelligence levels, with children who are consistently encouraged to speak having better language skills. Thinking creativity is characterized by a child's willingness to take on challenging tasks and not give up if they fail, thus focusing their mind on the task at hand. Parents and teachers should encourage children to be observant and sensitive to the surrounding environment to develop creative thinking (Supriyadi in Putra, 2021).

According to Aziz (Ulfa, 2022), fostering creativity in early childhood requires the application of specific methods such as creation, imagination, experimentation, projects, music, and language. Aziz discusses in detail the various aspects involved in fostering creativity in early childhood, namely:

1. Development of creativity through creation

Creating a work or product requires creative imagination and the ability to understand problems in everyday life. Nurturing children's creativity through making

can improve their critical thinking and skills, as evidenced by their ability to transform objects into something valuable or useful.

2. Development of creativity through imagination

Imagination, defined as the mental process of envisioning something, is considered an effective approach to improving children's intellectual, language, interactive and problem-solving abilities. Encouraging children to engage in imaginative thinking can stimulate their creativity by encouraging them to solve problems or invent new things.

3. Development of creativity through exploration

Exploration, which involves discovering new information, especially with regard to resources, problems, or empirical data, is closely related to detailed activities and analytical skills. By engaging in the process of exploration, children can hone their observational abilities and gain knowledge, experience and problem-solving skills.

4. Development of creativity through experimentation

Experimentation, which involves the systematic study of something through testing and research, serves as a means of acquiring knowledge and understanding. Through experimentation, children can develop problem-solving skills and improve their understanding of various subjects.

5. Development of creativity through projects

Projects as a platform for acquiring in-depth learning and understanding of a particular topic or theme, thus fostering creativity through a structured approach. Engaging in project-based learning allows children to gain experience in managing tasks, holding responsibility, collaborating, and enhancing their skills and interests.

6. Creativity development through music

Music plays an important role in enhancing children's creativity, providing a means for expression, interest development and talent exploration. Through music, children can express themselves, engage in language development, imitation, memorization, and play, so that their creative abilities can improve.

7. Development of creativity through language

Language, as a fundamental means of communication, serves as an outlet for expressing emotions, thoughts, and feelings through speech, symbols, gestures, and writing.

According to Fakhriyani (2016), in early childhood, creativity can be clearly seen when they are playing. Play gives children the opportunity to develop their

creativity, both with and without games. When children feel able to create something new and unique, they tend to keep repeating the same situation. Creativity gives children pleasure, personal satisfaction and rewards that influence their personal development. Therefore, play is a fun and natural way for children to develop their creativity and try out new ideas. While playing, children can use their imagination and face various challenges that encourage them to find solutions. As revealed by Marlina et al (in Hasanah & Gudnanto, 2023), play tools used in play activities can also stimulate the generation of new ideas and help children develop skills in solving problems.

According to Hajar (in Hasanah & Gudnanto, 2023), learning media such as educational games have the potential to help students understand learning materials in a fun and interesting way. Educational games are designed to facilitate learning that is fun, interesting, and challenging. The use of games as a learning tool can create a more enjoyable learning environment for children and can improve cognitive development abilities, including creativity in solving problems (Hasanah & Gudnanto, 2023).

Based on the explanation above, it can be concluded that the development of early childhood creativity can be achieved through many aspects, including play creativity, speaking creativity, and thinking creativity. Teachers and parents can stimulate creative play in children by providing games that stimulate initiative and motivation. By stimulating children to speak actively, speaking creativity can be improved which is related to the development of children's intelligence. In addition, creative thinking can be nurtured by supporting the child's desire to perform difficult tasks through visual, auditory and tactile stimulation. Specific ways to develop children's creativity include creating, using imagination, exploration, experimentation, projects, music and language. Through this approach, children improve their thinking, skills and interests, and gain experiences that enrich their understanding of their surroundings. In addition, the use of educational games can also be an effective means of enhancing children's creativity through fun and challenging methods.

Function of early childhood creativity development

In the implementation of early childhood creativity development, it has a function that can support in terms of learning and can also develop aspects of child development. According to Afrita and Putro (2021), these aspects are:

1. Self-satisfaction goals: Children will generate new ideas and be creative when involved in activities that develop and stimulate their thinking abilities, thus getting personal satisfaction.
2. Mental health: The development of creativity helps children's mental health by directing them to positive things, allowing them to channel their feelings and reduce tension that can affect children's behavior and emotions. Therefore, educators and parents can provide activities at home that can help children regulate their emotions and encourage the development of early childhood creativity.
3. Development of the art of beauty: Children are introduced to activities that create a variety of beauty such as natural beauty, painting, dance, and music, so that they can better understand, feel, and appreciate beauty and develop in this regard. Fostering creativity through these beautiful art forms can also shape children's character, enhance creativity, and connect them to the splendor of the natural environment.

Conclusion

This research highlights the importance of early childhood creativity development as an essential skill in children's cognitive, social and emotional development. Although creativity is recognized as an important element in 21st century education, the development of creativity in children in Indonesia still faces challenges, such as teachers' lack of understanding of creative teaching methods and parents' lack of involvement in creating a conducive environment.

This study confirms that the application of creative methods such as the STEAM approach, educational games, and art activities can effectively stimulate children's creativity. In addition, active parental involvement and environmental support that allows exploration also play a significant role in the development of creativity.

Thus, this study provides practical and theoretical contributions in improving the quality of early childhood education through the implementation of more innovative creativity development strategies. It is hoped that this research can encourage the development of educational policies that support early creativity, which will ultimately improve the overall quality of education in Indonesia.

References

- Aerila, J. A., Rönkkö, M. L., & Stenius, T. (2023). Humour-themed holistic learning processes in a Finnish primary school. *The European Journal of Humour Research*, 11(4), 75-92. <https://doi.org/10.7592/ejhr.2023.11.4.841>
- Afnita, J., & Putro, K. Z. (2021). Kunci-Kunci dalam Pengembangan Kreativitas Anak Usia Dini. *Raudhatul Athfal: Jurnal Pendidikan Islam Anak Usia Dini*, 5(1), 75-95. <https://doi.org/10.19109/ra.v5i1.7084>
- Alwinda, R. H. (2020). *Pengembangan Instrumen Kemampuan Berpikir Kreatif Matematis Siswa Berdasarkan Teori Taksonomi Bloom dan Evans* (Bachelor's thesis, Jakarta: FITK UIN Syarif Hidayatullah Jakarta). Diakses dari <https://repository.uinjkt.ac.id/dspace/handle/123456789/54407>
- Anjani, R., Novianti, N., Nuraeni, C., Jannah, R., Mariam Nabila, S., & Widjayatri, R. (2023). Pengaruh Media *Busy Book* Terhadap Kemampuan Pemecahan Masalah Anak Usia 3-4 Tahun. *Journal of Early Childhood and Character Education*, 3(1), 15-40. <https://doi.org/10.21580/joece.v3i1.12650>
- Aprianti, N., & Sugito, S. (2022). Pembelajaran dalam Pendidikan Anak Usia Dini Selama Masa Pandemi Covid-19: Sebuah Literature Review. *Jurnal Obsesi: Jurnal Pendidikan Anak Usia Dini*, 6(4), 2785-2794. <https://doi.org/10.31004/obsesi.v6i4.1663>
- Aral, N., & Kadan, G. (2023). The Relationship of Technology and Creativity in Childhood Period. <https://doi.org/10.5772/intechopen.110276>
- Ariany, F., Ningsih, M., & Garnika, E. (2023). Pemenuhan Hak Anak Atas Pendidikan Dasar Berdasarkan Perspektif Hukum. *Empiricism Journal*, 4(1), 175-180. <https://doi.org/10.36312/ej.v4i1.1158>
- Astuti, M., Mutyati, M., Handayani, P., Rahmawati, R., Noraini, N., & Puspita, D. (2023). Peran Orang Tua Dalam Perkembangan Psikologi Anak. *Jurnal Visionary: Penelitian dan Pengembangan dibidang Administrasi Pendidikan*, 11(2), 120-127. <https://doi.org/10.33394/vis.v11i2.9186>
- Beghetto, R. A. (2014). Creative mortification: An initial exploration. *Psychology of Aesthetics, Creativity, and the Arts*, 8(3), 266. <https://doi.org/10.1037/a0036618>
- Besan, H., Slamet, A., & Saleh, R. (2022). Peran Orang Tua Dalam Memberikan Pendidikan Seks Pada Anak Usia Dini (3-6 Tahun) Di Kelurahan Tongano Timur Kecamatan Tomia Timur Kabupaten Wakatobi. *Jurnal Wawasan Sarjana*, 1(1), 51-60. <https://doi.org/10.35326/juwara.v1i1.2384>
- Britto, P. R., Lye, S. J., Proulx, K., Yousafzai, A. K., Matthews, S. G., Vaivada, T., ... & Bhutta, Z. A. (2017). Nurturing care: promoting early childhood development. *The lancet*, 389(10064), 91-102. [https://doi.org/10.1016/S0140-6736\(16\)31390-3](https://doi.org/10.1016/S0140-6736(16)31390-3)

- Denervaud, S., Christensen, A. P., Kenett, Y. N., & Beaty, R. E. (2021). Education shapes the structure of semantic memory and impacts creative thinking. *npj Science of Learning*, 6(1), 35. <https://doi.org/10.1038/s41539-021-00113-8>
- Desi, S., & Jaya, I. (2021). Pengembangan Kreativitas Anak Melalui Kegiatan Membentuk Tanah Liat Di Taman Kanak-kanak. *Jurnal Kajian Anak (J-Sanak)*, 2(02), 76-88. <https://doi.org/10.24127/j-sanak.v2i02.816>
- Dini, J. P. A. U. (2022). Pengaruh Lingkungan Sekitar Untuk Pengembangan Kreativitas Anak Usia Dini. *Jurnal Obsesi: Jurnal Pendidikan Anak Usia Dini*, 6(5), 4794-4802. <https://doi.org/10.31004/obsesi.v6i5.2665>
- Fajriyah, E. (2021, December). Peran Orang Tua dalam Mendukung Kreativitas Belajar Matematika Anak Usia Dini di Masa Pandemi Covid-19. In *Journal Fascho in Education Conference-Proceedings* (Vol. 2, No. 1). <https://doi.org/10.54626/proceedings.v2i1.104>
- Fakhriyani, D. V. (2016). Pengembangan kreativitas anak usia dini. *Wacana Didaktika*, 4(2), 193-200. <https://doi.org/10.31102/wacanadidaktika.4.2.193-200>
- Fauziah, N. W. (2022). Penerapan Metode Belajar STEAM dengan Bahan Loose Parts untuk Meningkatkan Kreativitas Anak Usia Dini. *Tematik: Jurnal Penelitian Pendidikan Dasar*, 1(1), 26-31. <https://doi.org/10.57251/tem.v1i1.254>
- Gold, Z. S., & Elicker, J. (2020). Engineering peer play: A new perspective on science, technology, engineering, and mathematics (STEM) early childhood education. *Peer Play and Relationships in Early Childhood: International Research Perspectives*, 61-75. https://doi.org/10.1007/978-3-030-42331-5_5
- Hairiyah, S., & Mukhlis (2019). Pengembangan Kreativitas Anak Usia Dini Melalui Permainan Edukatif. *Kariman: Jurnal Pendidikan Keislaman*, 7(2), 265-282. <https://doi.org/10.52185/kariman.v7i2.118>
- Hardiyanti, W. D. (2020). Aplikasi bermain berdasarkan kegiatan seni lukis untuk stimulasi kreativitas anak usia 5-6 tahun. *Jurnal Pendidikan Anak*, 9(2), 134-139. <http://dx.doi.org/10.21831/jpa.v9i2.31664>
- Hasanah, U., & Gudnanto, G. (2023). Pemanfaatan Game Edukasi Wordwall Untuk Meningkatkan Kemampuan Kognitif Anak Usia Dini. *Khazanah Pendidikan*, 17(2), 73-84. <http://dx.doi.org/10.30595/jkp.v17i2.17650>
- Johnston, K., Kervin, L., & Wyeth, P. (2022). STEM, STEAM and makerspaces in early childhood: A scoping review. *Sustainability*, 14(20), 13533. <https://doi.org/10.3390/su142013533>
- Khadijah, K., & Amelia, N. (2020). Asesmen perkembangan kognitif anak usia 5-6 tahun. *Al-athfaal: jurnal ilmiah pendidikan anak usia dini*, 3(1), 69-82. <https://doi.org/10.24042/ajipaud.v3i1.6508>
- Khalidah, R. N. (2022). Development of Children's Creativity Through Traditional Games Ba-a-anakan and Ba-ka-kapalan. *JURNAL INDRIA (Jurnal Ilmiah Pendidikan Prasekolah dan Sekolah Awal)*, 7(2). <https://doi.org/10.24269/jin.v7i2.5715>
- Lestari, K. I., & Handayani, P. H. (2024). Pembelajaran STEAM Terhadap Kreativitas Anak Usia Dini Usia 5-6 Tahun. *EDU-RILIGIA: Jurnal Ilmu Pendidikan Islam dan Keagamaan*, 8(1). <https://doi.org/10.47006/er.v8i1.19806>

- Lestari, W. (2022). Strategi penanaman literasi budaya dan kreativitas bagi anak usia dini melalui pembelajaran tari. *Jurnal Obsesi: Jurnal Pendidikan Anak Usia Dini*, 6(6), 5476-5486. <https://doi.org/10.31004/obsesi.v6i6.2894>
- Liu, C., Su, W., & Zhan, X. (2022, June). The Influence of Parental Warmth and Family Rearing Style on College Students' Creativity Tendency: The Mediating Role of General Self-Efficacy. In *2022 8th International Conference on Humanities and Social Science Research (ICHSSR 2022)* (pp. 1702-1709). Atlantis Press. <https://doi.org/10.2991/assehr.k.220504.309>
- Mahardika, E. K., Nurmanita, T. S., Anam, K., & Prasetyo, M. A. (2023). Strategi literasi budaya anak usia dini melalui pengembangan game edukatif. *Murhum: Jurnal Pendidikan Anak Usia Dini*, 4(2), 80-93. <https://doi.org/10.37985/murhum.v4i2.287>
- Miftahurrohmah, U. U., Hariri, H., Rini, R., & Rohmatillah, R. (2021). Exemplary leadership practices in early childhood education in preparing the golden generations for Indonesia. *Journal of Social, Humanity, and Education*, 1(4), 253-268. <https://doi.org/10.35912/jshe.v1i4.529>
- Miller, T. (2018). Developing numeracy skills using interactive technology in a play-based learning environment. *International Journal of STEM Education*, 5, 1-11. <https://doi.org/10.1186/s40594-018-0135-2>
- Paek, S. H., Sumners, S. E., & Sharpe, D. I. (2020). Teachers' beliefs of creative children. *The Journal of Creative Behavior*, 54(3), 646-661. <https://doi.org/10.1002/jocb.400>
- Putra, W. (2021). Mutu Pendidikan dalam Penguatan Kreativitas Anak Prasekolah. *Ta'dib*, 11(2), 59-67. <https://doi.org/10.54604/tdb.v11i2.43>
- Putra, W. (2021). Mutu Pendidikan dalam Penguatan Kreativitas Anak Prasekolah. *Ta'dib*, 11(2), 59-67. <https://doi.org/10.54604/tdb.v11i2.43>
- Rahayu, H., Yetti, E., & Supriyati, Y. (2020). Meningkatkan kreativitas anak usia dini melalui pembelajaran gerak dan lagu. *Jurnal Obsesi: Jurnal Pendidikan Anak Usia Dini*, 5(1), 832-840. <https://doi.org/10.31004/obsesi.v5i1.691>
- Rahmat, S. T., & Sum, T. A. (2017). Mengembangkan kreativitas anak. *Jurnal pendidikan dan kebudayaan missio*, 9(2), 95-106. <https://doi.org/10.36928/jpkm.v9i2.123>
- Ren, F., Li, Y., & Zhang, J. (2017). Perceived parental control and Chinese middle school adolescents' creativity: The mediating role of autonomous motivation. *Psychology of Aesthetics, Creativity, and the Arts*, 11(1), 34. <https://doi.org/10.1037/aca0000078>
- Sit, M., & Rakhmawati, F. (2022). Pengembangan Model Pembelajaran Science, Techology, Engineering, Arts, and Mathematics pada Anak Usia Dini. *Jurnal Obsesi: Jurnal Pendidikan Anak Usia Dini*, 6(6), 6813-6826. <https://doi.org/10.31004/obsesi.v6i6.3496>
- Sumardani, Y. F., & Muhid, A. (2020). Efektivitas Mendongeng Dalam Meningkatkan Kreativitas Verbal Anak Usia Prasekolah. *Tumbuh Kembang: Kajian Teori Dan Pembelajaran PAUD*, 7(2), 153-163. <https://doi.org/10.36706/jtk.v7i2.11749>

- Ulfa, M. (2020). Peran Keluarga dalam konsep psikologi perkembangan anak usia dini. *Aulad: Journal on Early Childhood*, 3(1), 20-28. <https://doi.org/10.31004/aulad.v3i1.45>
- Ulfa, M. (2022). Teori Pengembangan Kreativitas Pendidikan dalam Perspektif Anak Usia Dini. *Jurnal Aktual Pendidikan Indonesia*, 1(2), 33-40. <https://doi.org/10.58477/api.v1i2.39>
- Yuliantina, I., & Yuliati, D. A. T. (2023). Model Pembelajaran Berbasis Projek dalam Meningkatkan Kreativitas Anak Usia Dini. *JIP-Jurnal Ilmiah Ilmu Pendidikan*, 6(11), 9143-9148. <https://doi.org/10.54371/jiip.v6i11.2934>