APPLICATION OF SELASI MODEL BASED ON PROJECT BASED LEARNING (PjBL) IN DEVELOPING CHILDREN'S CREATIVITY

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Abstrak: Transformasi pendidikan di era modern memerlukan pembelajaran yang berinovasi dalam memecahkan *problem solving* di masyarakat. Salah satu inovasi pembelajaran PAUD dalam kurikulum merdeka yaitu pembelajaran STEAM (Sains, Teknologi, Rekayasa, Seni, dan Matematika) yang berbasis *project*. Project pembelajaran ini menyesuaikan situasi dan kondisi dilapangan, salah satunya yaitu model SELASI (Seni Kolase Kreasi). Penelitian ini menggunakan penelitian kualitatif berbasis *field study* di TK Amal Insani Yogyakarta yang di dukung oleh sumber literatur lainnya. Teknik pengumpulan data ini meliputi tiga tahapan yaitu wawancara, observasi dan dokumentasi untuk menggali informasi lebih mendalam. Hasil penelitian ini menunjukkan bahwa model SELASI berbasis *project* dapat mengembangkan kreativitas anak di TK Amal Insani Yogyakarta. Temuan dalam penelitian ini model SELASI berbasis PJBL tidak hanya meningkatkan kreativitas anak namun juga melatih kemandirian anak dalam menyelesaikan *problem solving* melalui pengetahuan dan pengalaman anak.

Kata kunci: *STEAM, Project Based Learning, Perkembangan Kreativitas*

Abstract: The transformation of education in the modern era requires learning that innovates in solving problems in society. One of the kindergarten learning innovations in the independent curriculum is project-based STEAM (Science, Technology, Engineering, Art, and Mathematics) learning. This learning project adjusts the situation and conditions in the field, one of which is the SELASI (Art Collage Creation) model. This research uses qualitative research based on field study at Amal Insani Kindergarten Yogyakarta which is supported by other literature sources. This research data collection technique includes three stages, namely interviews, observation and documentation to explore more in-depth information. The results of this study indicate that the SELASI model based on PJBL can develop children's creativity at Amal Insani Kindergarten Yogyakarta. The findings in this study are that the PJBL-based SELASI model not only increases children's creativity but also trains children's independence in solving problems through children's knowledge and experience.

Key words: *STEAM;Project Based Learning; Creativity Development*

INTRODUCTION

The Industrial Revolution 5.0 requires education with an approach that applies effective learning to improve children's skills in preparing for the industrial revolution 5.0. In creating a generation of nations that meet the requirements of the 21st century, an appropriate approach is needed. One of the learning approaches that can be done is through STEAM (Science, Technology, Engineering, Art and Mathematics) through projects[1]. This project emphasizes that children are free to explore their knowledge by exploring their curiosity in solving the problems they face. Of course the implementation process requires assistance and guidance from educators. Children are trained to think critically in responding to problems, then work together to find solutions. together to find solutions. It is in solving this problem that can be be used as a reference or reference for the child's future[2]. In this research, STEAM learning is based on the SELASI (Art Collage Creation) model. SELASI is an art created for students that aims to encourage innovation and creativity of children according to their abilities. SELASI media is a combination of all elements contained in STEAM learning. First, the science element is applied through the understanding of gamelan musical instruments and the use of natural and artificial materials. Second, the technology element is seen in the use of materials and equipment to make SELASI media. Third, the engineering element appears in the manufacturing process through collage techniques. Fourth, the element of art is reflected in the gamelan image used as a guide for collage and the selection of materials to be attached to the image. Finally, the

[1] Cahyorini Wulandani dkk., "Implementing Project-Based Steam Instructional Approach in Early Childhood Education in 5.0 Industrial Revolution Era," *Indonesian Journal of Early Childhood Educational Research (IJECER)* 1, no. 1 (30 Juni 2022): 29, https://doi.org/10.31958/ijecer.v1i1.5819.

[2] Endang Purawati, M Ridlwan, dan Ratno Abidin, "Penerapan Model Pembelajaran Steam Untuk Meningkatkan Kreatifitas Visual- Spasial Pada Kelompok A Tk Negeri Pembina 1 Trawas Mojokerto," t.t.

element of mathematics is seen in the selection of flat shapes as the basis of SELASI[3].

Through the STEAM approach can realize projects to students during the learning process. It is important with the principle of the project-based learning (PjBL) learning paradigm that can provide output results are products that make projects the center of learning in practice[4].Project Based Learning is one of the learning models that can be combined with the STEAM approach, because in its implementation the PJBL model is in line with the STEAM approach. Where in the implementation of PjBL must follow the rules of science that can be combined with engineering technology such as art and math[5].The application of learning models or methods can run well with the support of strengthening the teacher's ability to innovate to create interesting, creative, innovative and fun learning[6]. According to Awang, project-based learning is learning that can help children to develop thinking skills, socialize with the environment to solve problems and train children's psychomotor skills. Project based learning (PjBL) is a learning model that requires creativity in making a useful product and combining new knowledge based on experience[7]. The application of the Project Based Learning model supports the implementation of education in improving children's creativity. Because this learning supports the

[3] Neni Mariana dkk., "Desain Pembelajaran STEAM dengan Media Selasi untuk Peserta Didik Kelas II SD," *Jurnal Obsesi : Jurnal Pendidikan Anak Usia Dini* 7, no. 1 (12 Januari 2023): 240–50, https://doi.org/10.31004/obsesi.v7i1.2809.

[4] Enggar Kusuma Triprani, Nawang Sulistyani, dan Dian Fitri Nur Aini, "Implementasi Pembelajaran STEAM Berbasis PjBL Terhadap Kemampuan Problem Solving pada Materi Energi Alternatif di SD," *Scholaria: Jurnal Pendidikan dan Kebudayaan*, no. 2 (26 Mei 2023): 176–87, https://doi.org/10.24246/j.js.2023.v13.i2.p176-187.

[5] Heryani Fatma, "Kreativitas Peserta Didik Dalam Pembelajaran Bioteknologi Dengan Pjbl Berbasis Steam," *Pedagonal : Jurnal Ilmiah Pendidikan* 5, no. 1 (30 April 2021): 7–14, https://doi.org/10.33751/pedagonal.v5i1.2574.

[6] Nurdin Nurdin, "Penerapan Konsep Pembelajaran Inovatif dan Kreatif Melalui Pembelajaran Berbasis Edutainment dalam Pembelajaran di PAUD," *Murhum : Jurnal Pendidikan Anak Usia Dini*, 2 Mei 2021, 56–67, https://doi.org/10.37985/murhum.v2i1.32.

[7]Suryana Rajagukguk, "Penerapan Project Based Learning Untuk Meningkatkan Kreativitas Siswa SD," *ELEMENTARY: Jurnal Inovasi Pendidikan Dasar* 3, no. 1 (21 Februari 2023): 1–12, https://doi.org/10.51878/elementary.v3i1.1945.

application of real life and experiential learning so that it can increase creativity and innovation to children can run effectively in classroom learning[8]. Thus, to help children prepare for the future, guidance and direction from the people around them are needed. It aims to make children accustomed to addressing problems and finding their own solutions, by learning from the knowledge or experience they have gained before.

Some previous studies include those conducted by Badria and Marlina with the results of his research showing that the concept of prophetic parenting applied by parents has a major contribution in educating children's character values using a method in accordance with Muslim guidelines, namely the Qur'an and Hadith[9]. Furthermore, research by Hasna Marwah et al related to the application of parenting in developing emotional intelligence, with the results showing that planning is needed in the implementation process through emphasizing character education to children using several solutions[10]. Similar research was also conducted related to the epistemology of education conducted by Wiyani the results of the study include five ways Luqman educates children with the aim of shaping children's character[11]. The difference between this research and previous research is that researchers make several updates related to Islamic parenting in the process of developing children's emotional intelligence using the point of view of a school of educational philosophy.

[8] Elinda Rizkasari, Ifa Hanifa Rahman, dan Prima Trisna Aji, "Penerapan Model Pembelajaran Project Based Learning untuk Meningkatkan Hasil Belajar dan Kreativitas Peserta Didik" 6 (2022).

[9] Ahlul Badria dan Leny Marlina, "Islamic Parenting: Aktualisasi Konsep Prophetic Parenting Rasulullah SAW Dalam Menanamkan Pendidikan Karakter Pada Anak Usia Dini Di RA Perwanida 4 Palembang," *ULIL ALBAB : Jurnal Ilmiah Multidisiplin* 1, no. 5 (2022), https://journal-nusantara.com/index.php/JIM/article/view/236.

[10] Hasna Marwah, Enoh, dan Huriah Rachmah, "Implementasi Pengasuhan Bahasa Cinta dalam Mengembangkan Kecerdasan Emosional Anak Usia 4-5 Tahun," *Jurnal Riset Pendidikan Guru Paud*, 11 Juli 2023, 1–6, https://doi.org/10.29313/jrpgp.v3i1.1753.

[11] Novan Ardy Wiyani, "Epistemologi Pendidikan Anak bagi Ayah menurut Luqman," *Yinyang: Jurnal Studi Islam Gender dan Anak* 14, no. 2 (10 Desember 2019): 311–28, https://doi.org/10.24090/yinyang.v14i2.3034.

This research was conducted at Amal Insani Kindergarten Yogyakarta under the auspices of the Amal Insani foundation which is a driving institution in the social field based in the DKI Jakarta area. Where Amal Insani Yogyakarta Kindergarten implements a full day program system for both the Playgroup and Kindergarten as an effort to develop services and facilitate parents who work until the afternoon. Then not only in the process of services and facilities to parents, Amal Insani Yogyakarta Kindergarten also seeks to develop learning models for children, one of which is using the SELASI model based on the STEAM approach in the learning process. In the observation process, researchers are interested in researching the concept of the STEAM approach in the development of children's creativity. However, in the observation process, researchers also found that this STEAM approach update also contributed to project-based learning (PjBL). This research was conducted in group A with an age range of 5-6 years totaling 18 children, with research time for two meetings. The formulation of the problem in this study as a limitation in the topic that the researcher wants to examine during the field, the problem taken by the researcher is “How is the application of the SELASI model based on project-based learning (PjBL) in the development of children's creativity at Amal Insani Kindergarten Yogyakarta?”. While the purpose of this study is to determine the contribution of the SELASI model based on project-based learning (PjBL) and how both in the development of creativity in children at Amal Insani Kindergarten.

METHOD

This research uses qualitative research with a case study approach. This study explains how project-based learning (PjBL) is related to improving children's creativity through the SELASI (Art Collage Creation) model at Amal Insani Kindergarten Yogyakarta. The data collection technique uses three stages, namely observation, interviews and documentation related to the research. Before conducting interviews, researchers first made

observations related to learning applied at Amal Insani Kindergarten Yogyakarta, and obtained data information related to the application of science, technology, engineering, art and mathematics (STEAM). Then conduct interviews through the anectotal record method, namely the researcher directly records information related to this research, namely the application of STEAM learning based on project-based learning (PjBL) in the development of children's creativity at Amal Insani Kindergarten Yogyakarta. In this study, researchers interviewed Mrs. Ambar as the principal and class teacher at Amal Insani Kindergarten Yogyakarta. Then to complete the above stages, researchers also took data through documentation during the research. After the data is collected, the next step is to analyze the data by concluding all the data related to this research

FINDINGS AND DISCUSSION

FINDINGS

Science, Technology, Engineering, Art and Mathematics (STEAM) learning at Amal Insani Kindergarten Yogyakarta is a combination of project-based learning (PjBL). In designing STEAM-based learning, it is necessary to emphasize the characteristics of learning for early childhood education, namely playing while learning and learning while playing. This is because the forms of goals, strategies, and learning approaches used in early childhood education are different from other levels of education. In the design of learning plans, there are basic competency criteria required, namely: First, HOT elements for early childhood education. Secondly, six aspects of child development (religious moral values, social emotions, physical motor skills, cognitive, and language and artistic abilities. Third, UAP-based learning approach. Fourth, child development assessment[12].

[12] Rachma Hasibuan, Ruqoyyah Fitri, dan Utari Dewi, "STEAM-Based Learning Media: Assisting in Developing Children's Skills," *Jurnal Obsesi : Jurnal Pendidikan Anak Usia Dini* 6, no. 6 (29 November 2022): 6863–76, https://doi.org/10.31004/obsesi.v6i6.3560.

The process of diverse child development is one of the challenges for educators to develop learning according to children's abilities without coercion. In STEAM learning at Amal Insani Kindergarten Yogyakarta, namely developing project-based creativity skills. Kindergarten Education Amal Insani Yogyakarta in developing children's creativity through child-centered learning through projects. Children are given the opportunity to be active in exploring their creativity by using media and tools that have been prepared by educators. For example, through STEAM learning with collage media, each child sticks and pairs several beads with a picture of a cake without help from the educator. Children who have curiosity, actively install and attach beads according to the creativity of children's diverse imaginations. The results of sticking beads into a cake shape from various colors of beads and flannel are some things that have aesthetic value. Therefore, indirectly the child has been stimulated in developing the child's creativity ability.

At the beginning of learning, educators invite children to pray at the beginning of learning together and continue attendance through counting or singing together to find out the number of children present today. Continued at the core of learning, the educator explains the material from the theme and sub theme of today's activities, namely with the theme of the social environment and the theme of the market. Educators use LCD projectors to display some activities in the market, in the process of playing videos educators try to provoke interest in children. By explaining that in the market buying and selling occurs, with the aim that children are able to think critically related to what goods or objects can be purchased when in the market. Children have been able to mention several kinds of objects or items that can be purchased, such as vegetables, chicken, fish, birds, snacks and so on. At the same time the teacher also cuts out various pictures of cakes that have been printed out, when children mention various objects that can be bought at the market. Because in this class learning is center-based, so

children are interested in what pictures are cut out by educators. After that, the educator tries to ask the child about the picture of the cake being held. This method is used as an effort so that children can focus on the material to be conveyed, then continued children are provoked to mention their favorite cakes both from color, taste and where they buy. Basically, this learning uses STEAM based on project-based learning (PjBL), which provokes children to think critically according to the child's ability with the results of the project in the form of a cake collage.

Based on observations, it shows that the project-based learning (PjBL) strategy can improve critical thinking and develop project-based creativity in children in STEAM learning activities. Children explore with pleasure and think critically in each stage and think creatively using a variety of existing beads and felt materials to attach to the cake image. The most important thing in this project is that children feel comfortable and fun for children, because this can increase children's creativity in the learning process. The observation also shows that this activity also trains children to be independent in completing their projects. This can be seen when children cut according to the picture pattern and freely stick various beads and flannel according to their wishes in shape and color. This independence appears when children choose and take the shape and color of the beads and flannel to form a picture of a cake. It ends with gluing white paper as an adhesive for the picture, also as a form of training children to be independent. The child completes this project without assistance from the educator, so the final result is the pure work of the child. This shows that children's knowledge and experience in learning independently on their own abilities have been accustomed to children.

Figure 1.1 The child's initial stage of cutting out

Based on the results of the interview, Mrs. Ambar as the principal and class teacher revealed that “The application of project-based learning (PjBL) at Amal Insani Kindergarten Yogyakarta is very effective in increasing children's creativity. Especially in STEAM-based learning, children are very enthusiastic in every stage of learning. For example, in the collage activity on this cake picture, children already have a desire to know what activities to use the picture. Beginning with cutting out cake pictures according to the pattern, children's creativity is seen when children process sticking beads with flannel cloth, each child is different. There are children who start by sticking beads, and some use flannel cloth only. In the development of this creativity, of course, there is an aesthetic value where children match colors, shapes or collaboration of both to form a good cake picture”.

Figure 1.2 Final Collage Results

The development of children's creativity in STEAM learning in the form of collage has different final results between each child. This can be seen when researchers make observations related to this learning for several meetings directly. Some are neat and beautiful in adjusting the shape of each line of the cake image, some match the shape or color well, and some are simple in attaching beads and flannel according to the cake image.

Figure 1.3 Using collage to make a bracelet

When the child completes the project, the educator must find out why the child used beads or felt in that shape or color. Because there are some boys who do not want to stick using beads, only using flannel. This is an effort from educators, for children to think imaginatively in the development of creativity without forcing children's abilities through asking various questions and giving appreciation to each child's project results. Various answers when children are asked questions related to the final results of their projects, such as the picture above, some think that the bread is like the cake that their mother usually makes at home. According to children in a conversation, namely (NS and ML) said that the cake was a birthday cake “the cake is like my brother's birthday bread yesterday. which is shared at school” he said. Therefore, it can be concluded that in child-centered STEAM learning, educators are required to guide and assist children when activities are running in developing creativity through projects.

DISCUSSION

Project-based learning is a learning method that gives students the freedom to plan learning activities, carry out projects collaboratively, and in the end a work product will be presented. PjBL uses the problem as the first step in collecting and integrating new knowledge based on their real activity experience[13]. According to Thomas, et al stated that project-based learning is learning that provides opportunities for educators to manage learning in the classroom involving project work[14]. This model encourages students to find ways to verify phenomena and problem solving. Therefore, the abilities, skills, and attitudes that students need are very important thinking, creative thinking, time management skills, and cooperation skills[15].

In the application of project-based learning (PjBL) emphasizes students to gain new knowledge based on experience through hands-on activities. In this model, students search for material by using various ways that are meaningful to themselves, and conduct experiments together. While the characteristics of the project-based learning (PjBL) method are real practice so that students are able to think critically and skills in solving problems obtained from new knowledge[16]. In this PjBL-based learning process, educators act as good facilitators, conducive and directed in the learning process. It mainly emphasizes on learning activities rather than bonding educator activities that focus on active learner activities in gaining direct experience “learning by doing”. The characteristics in the Project

[13] Azizah Muis dan Laksmi Dewi, “Day Care Management Course Design Based on OBE and PjBL for Teacher Education of Early Childhood Education Program,” 2021.

[14] Maryos Ipaubla dan Bunyamin Maftuh., “Analisis Model Project Based Learning Terhadap Kreativitas dan Efektivitas Siswa Sekolah Dasar Pada Materi Sumber Daya Alam.,” *In PROCEEDING The 10th PEDAGOGY INTERNATIONAL CONFERENCE Productive Pedagogy based on Inclusive Education, Multiliteracy & TPACK* 10, no. 1 (2022): 180.

[15] Muis dan Dewi, “Day Care Management Course Design Based on OBE and PjBL for Teacher Education of Early Childhood Education Program.”

[16] S. Safaruddin dkk., “The Effect of PjBL with WBL Media and Cognitive Style on Students’ Understanding and Science-Integrated Concept Application,” *Jurnal Pendidikan IPA Indonesia* 9, no. 3 (30 September 2020): 384–95, https://doi.org/10.15294/jpii.v9i3.24628.

Based Learning (PjBL) model are first, using projects as a learning medium. Second, starting learning with a question or real problem related to student life. Third, it involves students directly in learning to solve a problem. Fourth, students carry out project work activities individually or in groups. Fifth, students do learning and work individually. Sixth, results as a product of project learning[17].

STEAM (Science, Technology, Engineering, Art, Mathematics) project-based learning integration is a learning innovation that involves aspects needed to support students' science process skills. The new focus in education requires the application of these aspects in learning activities. This allows students to be able to integrate STEAM in their learning practices[18]. Meanwhile, STEAM is a combination of art with other STEM domains, where creativity and art are important elements in learning and innovation. STEAM can be defined as a way to build understanding through engagement with an art form that has a relationship between art and STEM elements, effectively supporting growth in all areas. In this way, STEAM provides children with greater opportunities to choose resources and approaches that build on and are responsive to their prior knowledge, experience and understanding across STEM domains. The creativity that underpins the arts is a hallmark of early childhood, and it is important that this creativity is nurtured from an early age in order to support it in the future[19]. There are many benefits for young children who have been stimulated with STEAM from an early age. Through integrated learning and engaging experiences, it increases children's interest and learning in STEM

[17] Maryos Ipaubla dan Bunyamin Maftuh., "Analisis Model Project Based Learning Terhadap Kreativitas dan Efektivitas Siswa Sekolah Dasar Pada Materi Sumber Daya Alam."

[18] Siti Suryaningsih dan Fakhira Ainun Nisa, "Kontribusi STEAM project based learning dalam mengukur keterampilan proses sains dan berpikir kreatif siswa." (Jurnal Pendidikan Indonesia, 2(06), 1097-1111., 2021).

[19] Kelly Johnston, Lisa Kervin, dan Peta Wyeth, "STEM, STEAM and Makerspaces in Early Childhood: A Scoping Review," *Sustainability* 14, no. 20 (19 Oktober 2022): 13533, https://doi.org/10.3390/su142013533.

and helps prepare them for the 21st century. When children are introduced to STEAM at an earlier age, there tends to be less gender-based stereotypes and barriers. However, there is little research on the impact of STEAM initiatives in the early stages of childhood. The lack of STEM or STEAM training for elementary and early childhood teachers brings new urgency for development-quality professionals in light of the newly released Next Generation Science Standards (NGSS), which emphasize engineering and technology education[20].

Creativity is a very important ability in this 21st century of learning, the implementation of STEAM-based learning in developing children's creativity through activities to solve everyday problems, can use simple tools and materials so that it becomes a form of design or to solve problems[21]. Creativity is an individual mental process in giving birth to new ideas, processes, methods and effective products that are imaginative, flexible, successful and quality discontinuity in various fields in solving a problem[22]. According to Desmita (2010) divides the four stages of the creative process, namely first, each individual tries to collect information or data in solving the problem at hand through the provision of knowledge and experience previously possessed. Second, at this stage the individual does not think about the problem at hand consciously but faces the individual's preconscious. Third, individuals have found and followed inspiration in the form of ideas and processes that initiate the emergence of inspiration or

[20] Nancy K. DeJarnette, "Implementing STEAM in the Early Childhood Classroom," *European Journal of STEM Education* 3, no. 3 (6 September 2018), https://doi.org/10.20897/ejsteme/3878.

[21] Eka Mauliza Azizah dkk., "Implementasi Pembelajaran Berbasis STEAM dalam Mengembangkan Kreativitas Anak Usia Dini," *Jurnal Obsesi : Jurnal Pendidikan Anak Usia Dini* 7, no. 6 (20 November 2023): 6620–30, https://doi.org/10.31004/obsesi.v7i6.5346.

[22] Maryos Ipaubla dan Bunyamin Maftuh., "Analisis Model Project Based Learning Terhadap Kreativitas dan Efektivitas Siswa Sekolah Dasar Pada Materi Sumber Daya Alam."

ideas. Fourth, at this stage the idea will be evaluated critically and converge in reality[23].

Based on this, project-based learning through STEAM can increase children's creativity through aesthetic values in choosing and matching collage games. Because the creativity instilled in children provides free time and thoughts in determining and exploring the abilities of each child. From the linkage of the two concepts above can develop children's imagination in creativity in solving a problem according to the experience that children have known or passed before.

CONCLUSION

STEAM learning based on project-based learning (PjBL) greatly improves the development of children's creativity. This can be seen when children are able to choose and attach collages from beads and flannel to cake pictures. Where each child has their own uniqueness in completing this project. The development of children's creativity is born from their previous experience and knowledge, then explored through several previous projects. Although this learning is based on children's freedom according to their creativity, educators also always direct and encourage children to be well stimulated. The final results of this project children have the same achievement, namely the development of children's creativity, but for children who are beginners or have not finished perfectly can be used as evaluation material in the future. In STEAM learning based on project-based learning (PjBL), children not only increase in the development of their creativity, but also in instilling independence in children in solving projects or problems. Therefore, researchers highly recommend that project-based learning STEAM learning (PjBL) be applied to children.

[23] Henny Puji Astuti, "Smart Parenting: Upaya Peningkatan Kemampuan Kognitif Dan Kreativitas Anak Di Kelurahan Banjarjo, Boja, Kendal" 11, no. 2 (2013).

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