



# Alternative STEAM Method for Developing Socio-emotional Skills of Children 5–6 Years Old

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**Abstract.** The problem currently faced by the existing learning system in the country of Indonesia is the weak learning process that is run. This can be seen from the process of giving the material done by the teacher, where in the process of delivering the material the children are still very less encouraged to be more active in developing their abilities to be more creative and exploratory in learning and working with their friends. Therefore, to realize the learning in accordance with the desired need for learning methods in accordance with the tututan era. The type of research used by researchers is a type of descriptive qualitative research that is research that describes an event that is happening at this time and then explained as it is. The subject in this study Is Kindergarten Teacher Aisiyiah Sidodadi Laweyan Pajang. Based on the results of interviews and observations that have been conducted by researchers kepada teacher in kindergarten Aisiyiah Sidodadi Pajang, get the fact that the STEAM method can be used as an alternative in the development of social Emotiona children aged 5–6 years where the STEAM method becomes a factor that supports the implementation of appropriate children’s activities to achievepaian perkembangan the independence of children to be able to do their own activities, solve the problems they face, and increase their confidence in every action they will do.

**Keywords:** metode STEAM · Alternatif · Social emotional child

## 1 Introduction

The problem currently faced by the existing learning system in Indonesia is the weak learning process that is run. This can be seen from the process of giving the material done by the teacher, where in the process of delivering the material the children are still very less encouraged to be more active in developing their abilities to be more creative and exploratory in learning and working with their friends. Meanwhile, as we know that the initial purpose of the desired education is to be able to deliver students into an individual figure who has an intellectual understanding so that it can help students in solving problems, and also has better behavior and character. In fact, not only that, education in the era of globalization is also expected to be able to maintain and maintain the philosophy and ideology of the nation so that the nation does not waver with a culture that is not in line with the ideals of the Indonesian nation.

Education in the current era of globalization is very demanding schools to be able to create students who can cooperate with each other, and students are also required to be able to do their own activities independently. Along with the development and changes in technology that has changed the way of socializing, how to communicate, how to eat, and so forth. The same applies to how the teacher conducts the learning process. It is undeniable that with the rapid development of the times, the role of education is very important in preparing students with various skills in order to adapt to the changes that are constantly happening around them. Therefore, based on these conditions, a teacher must follow the latest developments regarding strategies, approaches or methods in the learning process. "Whoever wants this world, let him know. Whoever desires the hereafter, let him know. And whoever wants both, let him know." (HR. Ahmad).

Education is an effort made to prepare the next generation through the provision of early learning through learning activities that aim to help someone actively develop their potential, abilities, and talents. Therefore, to realize learning in accordance with the current times, required learning methods in accordance with the development of the Times of the 21st century partnership identifies four "learning skills and innovation" which is the most basic thing that must be owned, namely: 1). Creativity, 2). Creative thinking, 3). Communication, 4).collaboration (Baishop & Ph, 2017). 21st century learning is child-centered learning that requires children to have an attitude of creativity, critical, communication, and cooperation. This corresponds to a future world where children must have the skills to learn in order to compete and cooperate with others. With this, the child's social emotional ability is a very important factor developed in early childhood, it is the first ability for a child to interact with the environment that exists around him.

According to the 2003 law on the national education system, early childhood education is a coaching effort aimed at children from birth to six years of age which is carried out through the provision of educational stimuli to help the growth and physical and spiritual development of children so that children have the readiness to follow further education. Hibana S. Rahman (2005: 4). Meanwhile, according to experts, early childhood is vulnerable children aged 0–8 years. According To Prof. Marjorry Ebbeck (1991) an early childhood expert from Australia stated that early childhood education is a service for children from birth to the age of eight. As previously explained that early childhood education is children who are in the Golden Age, which at this time is a very important period for a person's life, because at this time the potential of children who are still hidden in children can develop optimally if they provide the right stimulus. In order to bring up the muffled potential in children, it is hoped that there is a container that is able to facilitate the growth and development of children so that they can develop milk with the standard level of achievement of Child Development.

While the development of social emotions itself can include several things as follows: 1) Social Competence (interaction with social groups), 2) sociability, 3) social cognition (understanding of goals and behavior towards oneself and others), 4) prosocial behavior (willingness to share, help, cooperate, feel security and comfort, and also provide support for others) and mastery of human values and morality (development in determining good and bad standards). Yudha M. Saputra et al. stated that children's emotional behavior is strongly influenced by social reactions to children's emotional behavior, how to develop

children's social emotions by providing stimuli, these stimuli include auditory stimuli, tactile stimuli, social stimuli, visual stimuli (Yudha M. Saputra et al., 2005). From some of these opinions it can be concluded that in developing early childhood social emotions are strongly influenced by the stimuli provided by the surrounding environment, such as in the school environment teachers can facilitate children and also provide stimuli that are able to develop the child's social emotional abilities to the maximum.

Learning in early childhood to provide stimulation to social emotional skills must be done through a variety of varied programs. The learning method used to prepare children for the challenges of the world is the so-called method (STEAM), which stands for science, technology, engineering, art and mathematics. The STEAM method is a comprehensive incorporation of various subjects such as science, engineering, art, and mathematics as a problem-solving pattern. The end result that is expected to be achieved in this STEAM method is that children can be directly involved in the learning process, get new experiences, can survive when solving problems, can collaborate and work creatively (Nur Fadilah, 2020). The selection and application of the STEAM method as an alternative in the socio-emotional development of children aged 5–6 years is very important to try to use because it has many benefits for children, besides that the STEAM method is part of the curriculum used to develop creativity owned by children who focus on collaboration, oral or verbal communication and nonverbal, research, problem solving, and critical thinking. Through this learning approach, children are not only taught to be smart in academic aspects but also social emotional aspects (ej kim et al. 2012:2).

The explanation of learning using the STEAM method can be explained as follows: 1) science (knowledge) is a process for children to understand and find out about various things by exploring and collecting data so that they get explanations and ideas. Using this method can make children become more sensitive to events that occur around them. In addition, this can also form children to be more critical in thinking. 2) technology (technology) is a tool-a tool that has been designed to meet and assist human work such as digital computer tools. In children can be introduced starting from the simple first. This is done so that the child can use and also develop what they use. This method can help children to find out what interests and talents they have. 3) engineering (Engineering) is an activity that can be done by children in designing tools and solving problems such as when children play lego or play blocks. 4) art (art) is an activity that can be done by children such as conducting experiments in accordance with the imagination they have so that children can explore and train their creativity. 5) mathematical (mathematics) is an activity that can be done by introducing the basic concepts of mathematics to children such as magnitude, shape, space, pattern, and also the symbol of numbers.

The use of the STEAM method for early childhood can be applied by creating a learning environment that is safe, comfortable, and also fun for children. Providing opportunities for children to explore, discover, build, experiment, predict, find temporary answers and associate activities that have been done with their lives, these are important activities carried out in the application of the STEAM method. Which is where the activities can be applied when playing activities so that children feel comfortable and also enthusiastic in playing activities. Therefore, learning by using the STEAM method can provide opportunities for children to be able to explore in developing their abilities

and also communicate their knowledge creatively. Children should be taught to use these methods from an early age in order to foster a strong interest in a particular field, develop children's knowledge such as creative thinking, can identify problems, and find solutions. According to Hartati (2021), early childhood has a brilliant age (golden age) because it is able to capture information quickly so that it should not be delayed to get the optimal stimulus in its education. This is because early childhood has brain development, intelligence, personality, memory, and other developmental elements that are very important for further development.

Thus, learning using the STEAM method is very suitable to be applied to early childhood education so that in the learning process children can be creative, innovative, have critical thinking, care about their environment, can communicate, and also collaborate with others. Based on research conducted at Aisiyiyah Sidodadi panjang kindergarten, researchers are interested to examine how the STEAM method can be applied as an alternative for social emotional development of children aged 5–6 years. The purpose of this study is to describe the STEAM method as an alternative in developing social emotional skills of children aged 5–6 years in order to be a guideline or next step by the school.

## **2 Research Method**

The type of research used by the study is a type of description quality research that is research that takes or photographs an event that is happening at this time and then sought as a way. 5–6 years using the STEAM method, it is intended that in every learning activity the child is able to follow and can apply it in everyday life. The subject in this study was Aisiyiyah kindergarten teacher Sidodadi Laweyan Pajang. In this study, data analysis occurs when collecting data through a series of observations and interviews to the research subject to obtain credible answers (Miles & Hubberman, 1992). The data collection technique used by the study is to take theory (Sugiyono, 2013: 337; Faiz & Saleh, 2021) which consists of a reduction process, data display, and conclusion.

## **3 Research Results**

Based on the results of interviews that have been conducted researchers to teachers in kindergarten Aisiyiyah Sidodadi Pajang, obtained the fact that the STEAM method is very good to be used as an alternative in developing social emotional skills of children aged 5–6 years. Where in the development of social emotional abilities using the STEAM method to achieve a predetermined level of social emotional development, a teacher must pay attention to ten main things, namely: 1) controlling feelings; 2) showing confidence; 3) understanding the rules and discipline; 4) have a persistent attitude, 5) Take care of yourself and your environment, 6) appreciate the superiority of others, 7) be willing to share, help, and petrify the theme, 8) aim enthusiasm in conducting competitive games positively, 9) comply with the rules applicable in the game, 10) respect others. With ten main things that really need to be developed in children's social emotional competence, it is expected that children will know more about how they know themselves, such as being able to manage emotions so that they are not in a hurry to make decisions, being

able to be people who have sympathy and empathy behavior and have critical thinking when making decisions that can be justified.

Through learning that is done using the STEAM method as an alterteratif in developing social emotional skills of children aged 5–6 years is in accordance with the ideals of education in Indonesia that adapts to the fulfillment of the standard level of achievement of Child Development. For example, Ibu I as the principal of Aisyiyah Sidodadi Laweyan Pajang kindergarten revealed that children are currently very active in socializing with their environment, so the learning methods used must adjust to the psychological and sociological conditions of children. The application of the STEAM method applied by teachers is to develop a contemporary learning model because it has been adapted to the current generation which is very attached to literacy and digitalization. Thus, it is expected to increase the effectiveness of the learning that has been carried out by the teacher so that it can promote the development of awareness of the curriculum structure and stimulate the development of practical reasoning, analytical, commitment, in addition to technological, emotional, social and creative skills.

One way to develop an environmentally literate society is to instill the character of love for the environment in each individual from an early age. Shukri Hamzah stated that the character of caring for the environment is not entirely an innate talent or instinct, but is also the result of the educational process in a broad sense (Al Anwari, 2014). The STEAM method is used by teachers as an alternative in the development of children's social emotional abilities, making children become someone who is more sensitive to events that occur around them, and making children's characters more concerned in maintaining the environment such as planting plants, throwing garbage in place and also using enough water said the teacher at Aisyiyah Sidodadi Laweyan Pajang kindergarten. (Tritiyatma: 2017) Learning with the STEAM approach is contextual learning, where students will be invited to understand the phenomena that occur that are close to themselves. The use of the STEAM method as an alternative in the socio-emotional development of children can encourage children to be more persistent in learning to explore all the abilities they have, in their own way. The STEAM method will also bring up a variety of different products in each child and unexpected from each individual or group. In addition, this approach is carried out in groups, resulting in cooperation, collaboration and communication in the learning process.

The use of the STEAM method is very useful for stimulating the emissive social development of children aged 5–6 years. The use of STEAM method can develop children's social emotional abilities. Where children can express a wide range of emotions and are able to socialize with the theme at the time of doing the activity, without any fear, shame or rejection by the environment. The teacher also explained that in practice activities using the STEAM method in learning conducted by teachers obtained the fact that children become more enthusiastic and also motivated in doing this activity because teachers prefer the process passed by the child compared to the final result, so that in the activities carried out by the child becomes more meaningful to the child. And teachers become more confident in conveying information to children. When learning using the STEAM method, the teacher will design and prepare tools and materials used by children as interesting as possible, it is expected that children are able to show enthusiasm in doing competitive games positively. The teacher revealed that the use of

interactive media is a very important factor in learning that uses the STEAM method. This is because in learning that uses the STEAM method there is a fact that a teacher must be able to create a learning environment that can stimulate the learning objectives that have been planned beforehand. In addition, another indicator is that teachers must respond to students' learning needs in accordance with their psychological and sociological conditions, including lesson plans that are in accordance with the current generation (Suartiningsih, 2021).

In addition to meeting the predetermined indicators, the teacher explained that in learning using the STEAM method a teacher is required to understand the various conditions of students who have different backgrounds from one another. From that difference the teacher must be able to collaborate into a whole unit in the classroom in harmony. The reference is obtained from the theory expressed by Tomlinson, Carol Ann, & Moon (2014; Marlina, 2020) that teachers have a responsibility as pioneers in the learning process. The teacher also explained that learning using the STEAM method as an alternative makes children able to cooperate, have freedom and security in expressing ideas, feel comfortable carrying out learning activities while playing, decide for themselves what to explore, collaborate or collaborate with their friends. While making cooperation means the ability of children to want to vary, help, and help the theme without having to be told first. Cooperation is a joint action between an individual and a social group to achieve a common goal, from this explanation it can be concluded that work is a person's willingness to be able to cooperate together with other individuals or groups and can be part of the group.

The use of STEAM as an alternative method is very well used in the current education system, especially in early childhood education, this is because at first most early childhood education in Indonesia only focuses on the cognitive abilities of children and does not pay attention to other aspects. However, after the use of this STEAM method of education in early childhood is now very changed, this is because the use of STEAM method emphasizes the importance of practice directly, so that it is able to show persistent determination in children, creativity, flexibility and ability to cooperate with themselves. (Morrison 2006) learning content consisting of skills and knowledge is what education aims to achieve. In learning that uses the STEAM method as an alternative in the social emotional development of children aged 5–6 years teachers should be able to be more creative in designing a lesson. This is done so that when learning children have a persistent spirit and do not easily give up in using also develop what they use. Kindergarten teacher Aisyiyah Sidodadi Laweyan Pajang also said that in order to achieve learning goals that can develop social emotional abilities in children, it is very good to use the STEAM method as an alternative. And there is the main thing that is very important and needs to be considered and applied by teachers is how they should be able to be an example or model in learning. This is because a teacher is one example of a strong person in influencing the character of students. So when a teacher has become an idol and a model for the students, then the speech, speech and behavior of the teacher will be a role model in developing character based on what students see. As revealed by (Hakam & Nurdin, 2016; Faiz & Purwati, 2022) that with a model, giving an example to students so that they can imitate what their teachers exemplify both from their words and actions.

Thus the STEAM method is used as an alternative in learning is very well applied in early childhood, where the STEAM method requires children to be able to cooperate and be independent of themselves as early as possible in various things in everyday life, children can explore themselves as they like, what they feel, see, play and learn they can remember these things until they are adults, where in early childhood can absorb the activities learned because it is at the age of golden age. Where children are trained to find relationships between one discipline and another, they are expected to be able to develop good social and emotional attitudes in themselves so that they can compete and cooperate with others.

## 4 Conclusion

In the 21st century learning a learning is required to be child-centered which requires children to have an attitude of creativity, criticism, communication, and cooperation. In this case, after observation and interview at Aisyiyah Sidodadi Laweyan Pajang kindergarten, it was found that the STEAM method can be used as an alternative in the development of children's social emotional abilities, where the STEAM method is a supporting factor in the implementation of children's activities that are appropriate to achieve the standard level of achievement of children's development and can also train children's independence to be able to do their own activities, solve the problems they face, and increase their confidence in every action they will do.

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