

# Science in Early Childhood: Character-Building for Early Childhood

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**Abstract**—Some of the problems and conflicts that arise in social life, causing a question to arise, is the real character of Indonesian? From here the implementation of education is questioned its success. On the other hand the school still can not run the education mandate because of various kinds of implementation challenges. one of them, the implementation of education is to help build the character of his students. This study is an idea that to explain the implementation of science learning in early childhood, which is parallel in helping to build and develop the character of a child from an early age. This idea explains that the character can be built through proper science learning especially for early childhood. Teaching science to young children is not a teaching formula, or a particular theory, but teaches how to develop a child's scientific attitude to be able to form his character from an early age.

**Keywords :** *Science, Early, Childhood, Character*

## I. INTRODUCTION

Besides the goals of national education is to having the educated citizen, it's also to having the religious and good character (Depdiknas, 2008). In fact, some the immoral problem just happen from various circles including school-age children. Attitudes, social behavior of teenagers, children increasingly show to the decline. Though, they are the assets of the nation that must be maintained the quality of the soul and body in order to continue the life of the nation and state. Seeing the some conditions and the current situation that is required is the implementation of education that is able to direct the child to be strong scientifically and personally.

Starting from early childhood to higher levels, the education is important to have by the children in this era. Today science is attributed with relevant issues to the life, environment, and roles of students as citizens (Hofstein, Eilks, & Bybee, 2011). Many students can not participate in community discussions about the science and applications of technology because of the lack of student participation in science. Strong in personality so that children can balance the development of science and technology of the times. From there, learning of science is important to do at the same time can build the character of children from an early childhood. This idea will explain that characters can be built through appropriate science learning especially for early childhood.

## II. CHARACTER

According to Dennis Coon (in Gray, 2009) character is a visible trait of a person, who is born spontaneously from within himself thus distinguishing himself with others. This is where the characters relate to the distinguishing features of each individual, unique, possessed only. According to the Depdiknas the character is innate, heart, soul, personality, character, behavior, personality, nature, temperament, temperament, character. The character is personality, behavior, nature, character, and character. It is born from a series of attitudes, behaviors, motivations, and skills (Chusnani, 2013).

Besides related with individuals, the character is related to the superiority of other nations of the nation. Obviously the superior character is not the advantage of mastering, colonizing, or intervening, but a positive advantage, that is mutual respect for each other. If lost individual characters, affect the loss of character of a nation. therefore, the character needs to be planted, and grown through an appropriate educational design.

According to Ahmad Sudrajat (in Martini, 2005) character education is an effort of character building for all school residents which includes knowledge, willingness, awareness along with application of character values that have been taught in everyday life. While in early childhood education, character education is the cultivation of character values performed since childhood. Building character from an early age is a very important thing done by parents, teachers, and the environment, this is done so that children have good behavior since childhood.

Children are small people who have great potential. One is the potential character that exists in

children, and the potential of this character is related to moral development and religion. Children need other people to help develop the various potentials that exist in him, as well as with the character of the child, he needs adults to grow and apply the potential values of his character, either by giving examples or one way to build his character by teaching it in one eye lessons with the curriculum (Prabowo, Soedirman, & Math, 2010). In this case that is done through science learning in early childhood.

### III. SCIENCE IN EARLY CHILDHOOD

Science is an activity that contains about the natural knowledge around, the theory or concepts obtained through observation and research and learning that contains elements of experimentation and evaluation of evidence so as to provide stimulus development of knowledge and thought (Eshach & Fried, 2005). Observations and research in science are obtained by actively seeking and doing something (Buldu, 2006). In short, science is an activity that combines science and skills to acquire knowledge with various activities, so that the knowledge obtained really the result of the proofing process performed by the child.

Many think that science is complicated because it deals with the ability to observe and review a phenomenon based on facts. While early childhood can not think complex. Of course this is not wrong. But in fact the skill dilimiki in order to obtain knowledge from the results of science activities is present in the child and should be developed early in adulthood, the skill is ripe to use. Skills - the science skills of the child that is the ability to ask questions, observations, hypotheses, experiments, and concluded. Scientific skills is what teachers should develop so that children become scientists from an early age.

### IV. CHARACTER BUILDING IN SCIENCE FOR EARLYCHILDHOOD

Looking at some of the values of existing characters there are at least some character values that can be built early childhood through science learning. These values include discipline, hard work, honest, curiosity, creative, and religious that are all in affective demands. Science in early childhood does not lead the child to results-oriented or product, in which there is also a process that can lead to the formation of a child's attitude or character. As already explained, early childhood science learning leads children to develop scientific skills, such as observation, ask, hypothesize, experiment, and summarize the results that become a new knowledge for the child. From the process of learning science in order to develop these skills, in which teachers can build the values of character in children.

Children are small people who have limitations but has great potential. The child needs the help of an adult to help float his various potentials. Little children still have little knowledge and experience, so what he sees is always an interesting one. That is the ability of early childhood observation. Here is the task of the teacher, preparing appropriate learning for the project-based child in order to develop his skills and build the character of the child. Create a learning project that provokes a child's curiosity to appear when the child sees it. A great curiosity made her want to see, touch and know more. From there, the process of building the child's curiosity character is well directed. While the thing he wants to know is safe, let him explore it. Indeed when the child's curiosity arises and wants mengekplorenya, that's where the right time for parents or teachers provide complete knowledge for children.

When his curiosity arises, he will usually ask what he wants to know about the people around him. In the learning, the teacher is responsible for directing the child's questions so that he can hypothesize simply. Once the child is able to hypothesize, invite the child to prove his hypothesis, whether correct or otherwise by doing a simple experiment.

Conducting experiments on children can develop the character of discipline, hard work, and creativity of children. After doing the teacher's expression, it is tasked to consolidate the results of the child experiment. Done with the intention of the child can conclude the results of his experiments, whether in accordance with the simple hypothesis he made, or there are changes and so forth. When the child conveys the results and conclusions, strengthen by conveying the lessons and lessons that can be taken to instill the value of the religious character in the child.

### References

- Buldu, M. (2006). Young children's perceptionsof scientists: a preliminary study. *Educational Research*, 48(1), 121–132. <https://doi.org/10.1080/00131880500498602>
- Chusnani, D. (2013). Pendidikan Karakter Melalui Sains, 1, 9–13.
- Depdiknas. (2008). UU No. 20 tahun 2003 tentang Sistem Pendidikan Nasional, 41(1).
- Eshach, H., & Fried, M. N. (2005). Should Science be Taught in Early Childhood□?, 14(3). <https://doi.org/10.1007/s10956-005-7198-9>
- Gray, T. (2009). Character Education in Schools. *ESSAI*, 7(21).
- Hofstein, A., Eilks, I., & Bybee, R. (2011). Societal issues and their importance for contemporary science education-a pedagogical justification and the state-of-the-art in Israel, Germany, and the USA. *International Journal of Science and Mathematics Education*, 9(6), 1459–1483. <https://doi.org/10.1007/s10763-010-9273-9>
- Kamisah, zanaton, lilia. (2007). Sikap terhadap Sains dan Sikap Saintifik di kalangan Pelajar Sains. *Jurnal Pendidikan*, 32, 39–60.
- Prabowo, A., Soedirman, U. J., & Matematika, P. S. (2010). Memahat karakter melalui pembelajaran matematika. *Proceeding of the 4th International Conference on Teacher Education; Join Conference UPI & UPSI*, (November), 8–1