



## Environmental care characters in early childhood: The project method effects

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Keywords	Abstract
<i>environmental care characters; early childhood; ; project method</i>	This study aims to determine the effect of the project method on the environmental care character of early childhood. The research uses a quantitative approach with a Pre-Experimental Design research design, the type of one-group pre-test-post-test design. The sampling technique used was total sampling. The data collected through the instrument was compiled based on expert theory which consists of disposing of their garbage, watering the plants, and helping to care for the plants. The results obtained from applying the project method to children whose environmental care character has not yet developed indicate that the environmental care character in children increases after the treatment given using the project method is proven by t count greater than t table with an alpha significance level of 0.05. Thus, teachers can use other these methods as a strategy to develop environmental care characteristics from an early age. To solve the problem of environmental care character according to other age stages, further action research can be carried out.

## A. INTRODUCTION

In recent years, character education has become an essential theme in the development of education in the country, especially in early childhood education (Hadisi, 2015; Iswantiningtyas & Wulansari, 2018; Khaironi, 2017). Through character education it is hoped that it can move or facilitate the community to have an awareness of the nation and state and have a harmonious and democratic life by paying attention to the norms that already exist in society (Rihlah et al., 2020). Character formation and character

education are necessary because educators must make students bright and have good manners to make their presence in society meaningful and useful (Juanda, 2019).

Through character education guidelines for early childhood issued by the Ministry of National Education, the Directorate General of Early Childhood Learning, Non-formal and Informal (PAUDNI), the PAUD Directorate explained: In early childhood education, character values are seen as essential to be introduced and internalized into their attitudes, including love for God Almighty, honesty, discipline, tolerance and love of peace, self-confidence, independence, help, cooperation and mutual assistance, courtesy, responsibility, hard work, leadership, and justice, creative, humble, cares about the environment, love the nation and the homeland (Hidaya & Aisna, 2020).

Character education is education that can build one's personality through the character formed from that person (Harahap, 2021). Character development can be seen in a person's actions, including a good attitude, honesty, responsibility, respect for others, and the person's hard work (Devianti et al., 2020). In addition, character education instills values into school members, including knowledge of the character's willingness or awareness and actions in implementing these values (Setiawan et al., 2021). Through character education, it is hoped that children can care about their environment by introducing children to the importance of protecting the environment. Protecting the environment is one of the character values of caring for the environment (Vitri et al., 2022).

Caring for the environment is a treatment that can prevent damage to the environment and the natural surroundings in repairing environmental damage (Oktamarina, 2021). Meanwhile, the environment itself is defined as the place we live. The environment must be maintained as best as possible, and do not let the environment be damaged just like that. The environment will be good with maintenance and care (Ismail, 2021).

Learning to care for the environment in children can be done by teaching children to throw garbage in its place, love, and maintain the cleanliness of the environment itself (Palupi et al., 2020). Indicators of the character of caring for the environment in children include: children can dispose of their garbage, children can water plants, and children can help take care of plants. The character of environmental concern prioritizes how children have ethics and morals in maintaining their attitudes at school or in other environments (Widiatningrum et al., 2018).

To create the next generation that loves and cares for the environment, it is necessary to inculcate the character of caring for the environment from an early age which is a critical period for children to gain experience to grow in love and care for the surrounding environment. The results of Lestari's research (2019) state that childhood experiences greatly influence subsequent developments. The results of other studies state that a good understanding and experience of the environment from an early age can positively impact children and shape their future character in caring for the environment (Marietta, 2021).

However, that research study is not in line with the findings of field observations, which show that many Kindergarten children still do not care about the environment. This case is evidenced by the garbage in the school environment, both inside and outside the classroom. For example, there are still some children who do not care about the trash around them, children who do not throw garbage out of place, and children who lack care in watering and caring for the plants around them. Inadequate facilities in schools cause a lack of environmental care for children. Such as there are no brooms, shovels, and tools for watering and caring for plants in kindergarten, as well as the lack of stimulation given to children in maintaining a clean environment; this needs to be considered while at the same time finding reasonable solutions to increase awareness of the surrounding environment. One solution can be by inviting children to work together to clean the room inside and outside the classroom, water plants, and care for plants. For this reason, it is necessary to provide a

solution in the form of providing a method that can involve children directly in learning activities in kindergarten. One method that can be used to overcome these problems is the project method (Norhikmah et al., 2022).

Nurtiani & Rahma (2020) explained that a project-based learning environment could lead to positive environmental care changes for teachers and children. Applying the project method to children can gain learning experiences from various responsibilities and jobs so that they can be carried out systematically to achieve the ultimate goal. The project method also provides opportunities for children to carry out group assignments, communicate with friends, and obey the rules, including using the method (Maya et al., 2022).

The project method is assumed to help inculcate excellent and valuable characteristics for the future, such as knowing the rules, curiosity, independence, and how they adapt to their environment (Sinaga, 2022). The advantages of this project method include that children are involved in a joint activity that spurs children with social problems and can interact with their friends to increase their social development (Risnawati, 2021). The more opportunities children have to do something together, the faster they learn to do it by working together.

From several previous studies, it was stated that there were many positive impacts of the application of project methods on early childhood development, such as increasing social development (Izza, 2020; Putri et al., 2018), intrapersonal intelligence, children's character values (Hamidah, 2017), discipline (Mujahidin et al., 2019), creativity (Windasari et al., 2016), the concept of size (Fatdianti & Rianto, 2016), geometric shapes (Ningsih & Nafiqoh, 2019), collaboration skills (Magta et al., 2019). Thus, it can be interpreted that this project method is one way to stimulate children's development. However, similar research studies have not been found in developing the character of caring for the environment from an early age. Therefore, it is crucial to conduct this research to determine the effect of the project method on the environmental care character of early childhood.

## B. METHOD

This study uses a quantitative approach using the type of pre-experimental research with the one-group pretest-posttest design because this design provides a pre-test before giving action.

Tabel 1. Model *Pre-Eksperiment*

<i>Group</i>	<i>Pre-test</i>	<i>Treatment</i>	<i>Posttest</i>
Experiment	O <sub>1</sub>	X	O <sub>2</sub>

This study does not require a control group because, for this study, only one group is used, O1 is the observations made, X is the treatment given, and O2 is the treatment given. The research was conducted at Aisyiyah Kindergarten Bustanul Atfhal Tanjung Barulak, Tanah Datar Regency, West Sumatra Province. In this study, the sampling technique used was a total sampling technique with 11 children.

Data collection was done by arranging instruments in advance based on the theory of previous experts so that the data collection method was carried out by children observing the environment, which consisted of taking out their garbage, watering the plants, and helping to care for the plants.

Data analysis was carried out by comparing the mean pre-test and post-test of the experimental group utilizing a t-test.

## C. RESULTS AND DISCUSSION

### 1. RESULTS

#### a. Description of Pre-test Data

Table 2. Pre-test Results of Environmental Care Characters

No	Interval	Category	F	%
1	26 – 32	Well developed	0	0%
2	20 – 25	Develop as expected	0	0%
3	14 – 19	Begin to develop	5	45%
4	8 – 13	Undeveloped	6	55%
<b>Total</b>			11	100%

Based on table 3 above, it can be concluded that in the pre-test data, the environmental care character is five children with a percentage of 45% in the category of starting to develop and six children with a percentage of 55%.

#### b. Description of Post-test Data

After carrying out four treatments, the next step is to hold a post-test to see how far the children's environmental care character has increased after treatment.

Table 3. *Post-test* Results of Environmental Care Characters

No	Interval	Category	F	%
1	26 – 32	Well developed	10	91%
2	20 – 25	Develop as expected	1	9%
3	14 – 19	Begin to develop	0	0%
4	8 – 13	Undeveloped	0	0%
<b>Total</b>			11	100%

Based on the table above, the post-test results were obtained in 10 children with 91% whose character cares for the environment in the very well-developed category, and one child with a percentage of 9% who developed according to expectations.

#### c. Hypothesis testing

After the treatment results, the next step is to analyze the data from the treatment by conducting statistical tests, to see whether or not there is a significant increase in the character of caring for the environment in children through the project method. In this case, the t-test analysis is carried out as shown in the table below:

Table 4. Testing the Truth of the Alternative Hypothesis ( $H_a$ )

No	Code	Pre-test	Post-test Score	D	D <sup>2</sup>
1	AAR	12	29	17	289
2	CHR	14	30	16	256
3	GIJ	11	29	18	324
4	MI	14	26	12	144
5	NNS	14	32	18	324
6	PAR	14	29	15	225
7	QSM	13	28	15	225
8	RAP	14	25	11	121
9	RA	12	30	18	324
10	WJ	11	31	20	400
11	ZAP	10	31	21	441
Count	139	320	181	3.073	
Means	12,63	29,09	16,45	279,36	

The next step is to provide an interpretation of  $t$ , which first takes into account the  $df$  or  $dB$ ,  $df = N-1 = 11-1 = 10$ , comparing the magnitude of  $t$  obtained with the calculation of  $t_0 = 17.5$  and the magnitude of “ $t$ ” listed at a significant level 1%, namely  $t_{1\%} = 3.106$ , so it can be seen that  $t$  is more significant than  $t$ , namely  $17.5 > 3.106$ . Then the alternative hypothesis is accepted; thus, the project method affects the environmental care character of early childhood. Thus, there can be a significant difference between the pre-test and post-test in the sample group. Then hypothesis  $H_a$  is accepted, and hypothesis  $H_0$  is rejected. So, it can be concluded that the project method can be applied to improve the character of children’s environmental care.

## 2. DISCUSSION

After being given treatment, each child experienced increased character of caring for the environment through the project method. The data includes ten children developing very well and one child in the category of developing as expected. This result is due to the project method application can improve the character of caring for the environment in children.

It can also be seen that before treatment is given, not all children can throw garbage in its place. There are still children who are not able to water the plants, and there are still children who are not able to help take care of the plants, so it is necessary to have project activities carried out in various places to see an increase in the character of caring for the environment in children.

The study results indicate that the character of caring for the environment in children can be developed and trained through the project method. The learning activities that have been carried out using the project method produce exciting and fun activities for children by inviting children directly to carrying out project activities in various places by exposing children directly to the environment. The character of caring for the environment can be developed by disposing of their garbage, watering the plants, and helping take care of the plants.

The results align with Seftyana et al. (2018), who state that the project method provides direct learning experiences for children by exposing them to everyday problems that can be solved in groups. In this case, teaching activities with the project method can help children find a way out that is faced by occupying the child's minds. Sujiono's (2009) opinion revealed that the project method is a dynamic and flexible learning model that can help children understand various knowledge logically, concretely, and actively. So that the treatment given by using the project method to develop the character of caring for the child's environment has proven effective.

The results of this study align with research findings by Astuti (2016), which suggests that the project method is an exciting activity for children and can hone their patience, participate in group activities, and interact with their peers. The project method can stimulate children to increase cooperation, interact and learn to solve the daily problems they face (Fajriah et al., 2021).

The character of caring for the environment is fundamental to be instilled as early as possible to create the nation's next generation to have a sense of care and feelings of love or affection for the natural surroundings (Tsevreneri et al., 2022). This statement is in line with the opinion of Naim & Ratri (2012) that caring character is a significant value that must be developed. Individuals with character must have a sense of caring for their natural surroundings. It creates a generation caring about the environment, and it is necessary to instill the character of caring for the environment as early as possible.

The family influences the character of caring for the environment (Andhika, 2021). The family environment is the first environment that children face every day (Aisyah et al., 2021). The environment significantly affects the character of children's environmental care. Children care about the environment; how do parents' guide, nurture, and develop the character of caring for the environment, and how do parents understand the importance of caring for their child's environment (Koloszuki Maciel et al., 2022).

The next factor that affects the child's environment is school because the child's time is generally spent in this environment. Educational institutions or schools have a significant role in shaping students' character, or in this case, early childhood. In shaping the character of caring for the environment, the vital role of schools is likened to a printing machine for humans with commendable characters (Pangestika et al., 2021). Education in schools is used as a workshop to improve the morals or morals of the nation's children, caused by the negative impact of the current modernization era (Faridy & Rohendi, 2021). Education is required to be an active change agent for the nation's children.

Based on the explanation above, it is clear that implementing the project method in kindergarten can improve the character of caring for the environment in children both in disposing of their garbage, being able to water plants, and being able to help take care of plants.

#### D. CONCLUSION

The project method can be given to children to develop the character of caring for the environment from an early age. The project method provides a direct learning experience of project activities in various places so that children are actively involved, find solutions, take responsibility for work, and do it systematically to achieve the ultimate goal. Thus, the principal should be able to provide direction for teachers to apply the project method in the learning process so that teachers can use the project method to improve the character of children's environmental care. The continuation of this research can be measured by the environmental care character variable, different research subjects, and the application of project methods to overcome every problem in children.

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