Jurnal Pendidikan Indonesia
Volume 13, Number 2, 2024 pp. 258-268
P-ISSN: 2303-288X E-ISSN: 2541-7207
Open Access: https://doi.org/10.23887/jpiundiksha.v13i2.64770

Children's Environmental Identity Development with Descriptive Phenomenology Approach

Ambar Sri Lestari[1*], Jumarddin La Fua[2], Imelda Wahyuni[3]

[1] Universitas Islam Negeri Sunan GunungDjati Bandung, West Jawa, Indonesia
[2,3] Institut Agama Islam Negeri Kendari, Southeast Sulawesi, Indonesia

ARTICLE INFO

Article history:
Received June 28, 2023
Accepted December 13, 2023
Available online June 25, 2024

Kata Kunci:
Identitas, lingkungan, fenomenologi.

Keywords:
Identity, environment, phenomenology.

ABSTRAK

Siswa seringkali memiliki kesadaran lingkungan yang rendah. Hal ini dapat dilihat dari perilaku sehari-hari yang kurang memperhatikan pentingnya menjaga dan merawat lingkungan. Salah satu cara untuk meningkatkan kemampuan siswa dalam mengembangkan identitas lingkungan adalah melalui Pendidikan Lingkungan Hidup (PLH). Penelitian ini bertujuan untuk mengeksplorasi pengembangan identitas lingkungan siswa kelas empat hingga enam Sekolah Dasar Juara di Kota Bandung melalui pengalaman belajar di luar ruangan. Jenis penelitian yang digunakan adalah kualitatif dengan pendekatan fenomenologis. Data dikumpulkan melalui wawancara semi-terstruktur dengan 12 siswa yang berpartisipasi, menggunakan pertanyaan terbuka dan dianalisis dengan metode fenomenologis deskriptif Colaizzi. Penelitian ini bertujuan untuk mengeksplorasi pengembangan identitas lingkungan siswa kelas empat hingga enam Sekolah Dasar Juara di Kota Bandung melalui pengalaman belajar di luar ruangan. Jenis penelitian yang digunakan adalah kualitatif dengan pendekatan fenomenologis. Data dikumpulkan melalui wawancara semi-terstruktur dengan 12 siswa yang berpartisipasi, menggunakan pertanyaan terbuka dan dianalisis dengan metode fenomenologis deskriptif Colaizzi. Temuan penelitian ini mengungkapkan bahwa anak-anak mengembangkan identitas lingkungan mereka melalui pengalaman belajar di luar ruangan yang mencakup empat aspek: Gerakan Cinta Lingkungan, Juara Bersih dan Rapi (Jurasik), Pengolahan Sampah, dan Kegiatan Ramah Lingkungan. Aspek-aspek ini terintegrasi ke dalam sikap pro-lingkungan siswa secara keseluruhan. Penelitian ini berimplikasi pada peningkatan kesadaran sikap dan literasi siswa terhadap lingkungan.

ABSTRACT

Students often have low environmental awareness. This can be seen from daily behavior that does not pay attention to the importance of maintaining and caring for the environment. One way to improve students' ability to develop environmental identity is through Environmental Education (PLH). This research aims to explore the development of environmental identity of students in grades four to six of Champion Elementary School in the city of Bandung through outdoor learning experiences. The type of research used is qualitative with a phenomenological approach. Data were collected through semi-structured interviews with 12 participating students, using open-ended questions and analyzed by Colaizzi's descriptive phenomenological methods. This research aims to explore the development of environmental identity of students in grades four to six of Champion Elementary School in the city of Bandung through outdoor learning experiences. The type of research used is qualitative with a phenomenological approach. Data were collected through semi-structured interviews with 12 participating students, using open-ended questions and analyzed by Colaizzi's descriptive phenomenological methods. The findings of this study reveal that children develop their environmental identity through outdoor learning experiences that include four aspects: Environmental Love Movement, Clean and Neat Champion (Jurasik), Waste Management, and Eco-Friendly Activities. These aspects are integrated into the overall pro-environment attitude of students. This research has implications for increasing students' awareness of attitudes and literacy towards the environment.

*Corresponding author
E-mail addresses: lestar567@gmail.com (Ambar Sri Lestari)

1. INTRODUCTION

Environmental identity is of much interest to researchers in environmental education and other related disciplines (Fischer & Wentz, 2021; Hestness et al., 2019; Morton et al., 2017). Environmental identity is an aspect of self-identity that considers an individual's self-concept in relation to nature and is generally related to the extent to which a person is willing to act for the sake of the environment (Jia et al., 2017; Stapleton, 2015). The environmental identity results from a person's behavior due to environmental education, but little has been written about how children's environmental identity emerges. In other words, movement is built through meaningful social environments and independent encounters with the natural surroundings. Previous research explore the social aspects of ecological identity, describe the stages of environmental identity development, and discuss the role of nature's experience in identity formation (Hestness et al., 2019; Morton et al., 2017). The identity of the environment is formed through one's relationship with nature and the way one sees and acts, mainly in the formal educational setting of the school. Environmental identity development can be analyzed through attitude construction and environmental behavior, as individuals act consistently with their identity (Fischer & Wentz, 2021; Hestness et al., 2019). An individual not yet understand their action when dealing with environmental problems because of a poorly developed ecological identity. Supported by similar research explicitly identify identity as the primary motivator of individual sustained efforts in their practice, from understanding the identity of the environment to fostering pro-environmental values that support it (Dakir & Anwar, 2020; Foot, 2014). The identity of the environment encompasses the emotional, cognitive, and experiential dimensions (Hestness et al., 2019; Morton et al., 2017).

Previous study states that children's environmental identities are found to emerge as they grow up and develop, mainly influenced by experiences in the natural world as well as by sociocultural influences (Braun & Dierkes, 2017; Frantz & Mayer, 2014; Torkar & Bogner, 2019). While expanding children's literacy, the environment provides context for learning about science and nature. The everyday learning environment is described as a "complex learning ecology" in which children develop a wide range of experiences, competencies, and interests (Pinkard, 2019; Sefton-Green & Erstad, 2017). The empirical studies about identity are influenced by social Interaction and experience, so interest in and self-identification with science are shaped by social or structural location, such as class, ethnicity, and gender (Beldad & Hegner, 2018; Greene et al., 2021). Children's environmental identities develop as they interact with the world around them, and teachers can potentially use children's connections with nature to spark an interest in science by incorporating them into the ecology curriculum to develop the child's identity environment (Foot, 2014; Morton et al., 2017). The development of environmental identities can be carried out through cross-ethnic and/or class diversity (Schwartz & Loewenstein, 2017; Vebrianto & Wahyuni, 2023). Behavioral awareness is important because individuals act according to their identities, and this is a new area of environmental education research (Hestness et al., 2019; Morton et al., 2017).

The student's environmental identity can be done with an understanding of the elements of nature learned through experience. However, administrators and formal educators often discount the experiences and view them as ineffectual and impractical. The barriers include the lack of administrative support, expense of an off visit, student management issues, lack of skills and knowledge regarding teaching outdoors, and safety concerns (Bürgener & Barth, 2018; James & Williams, 2017). A lack of outdoor learning experience can make children less fortunate in learning ecological concepts, environmental sensitivity, a sense of ownership, and connection with nature (Ardoin et al., 2018; Habyarimana et al., 2022). Therefor, to build the identity of the child's environment, it can be learned when the child has experiences in the outdoors (Daly et al., 2016; Frensley et al., 2020). Direct experience in nature can shape attitudes toward the environment and lead to connections that lead to pro-environmental behavior throughout life (C. Monroe et al., 2021; Kaya & Karatepe, 2020). Outdoor field experiences, in which students participate in hands-onactivities that relate directly to the local environment, have been shown to improve student learning in a variety of subjects, especially in the transmission of environmental knowledge (Braun & Dierkes, 2017; Brussoni et al., 2017). Moreover, the outdoors easily lends itself to cross-curricular teaching, which allows educators to maximize instructional time (Huber et al., 2020; Zimmerman & Weible, 2017).

The novelty of this study lies in the phenomenological approach used to understand the outdoor learning experience and its impact on the development of students' environmental identity in the context of the Adiwiyata program. The results of this study support the use of outdoor field visits as an important teaching strategy. It is hoped that the results of this research can provide new insights for educators and policymakers in developing more effective and sustainable environmental education strategies. In particular, this research aims to explore children's environmental identity in order to foster pro-environmental attitudes and behaviors. Thus, this research contributes to increasing children's awareness and concern for students' identity and pro-environmental behavior.

2. METHOD

This study uses a type of qualitative research based on the philosophy of postpositivism by referring to constructivist epistemology. A descriptive phenomenological research design is shown in Figure 1. Phenomenology is the study of human experience , which aims to understand and describe human situations, events, and experiences. Phenomenology describes our experience in understanding the essence of the phenomena studied. The context of this research is at the Basic State School in Bandung, West Java, which has implemented the Adiwiyata program. Using a phenomenological approach can reveal learners' experience in developing environmental identity through environmentally friendly school management.

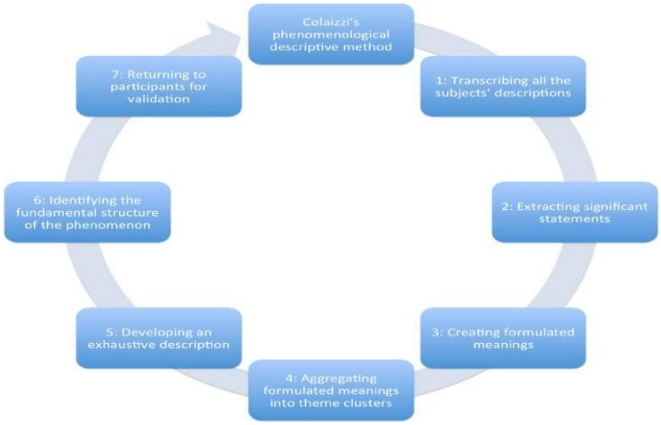

Figure 1. Illustrates Colaizzi's Descriptive Phenomenology

Qualitative researchers are referred to as human instruments, with researchers descending directly to the research site, describing and describing existing facts, as well as taking an approach to the source of information, so that the data obtained is expected to be more maximized and in line with the phenomena experienced by the participants. Twelve students participated and were willing to be interviewed about their experiences and their corresponding meanings in the current phenomenon. The duration of the interview ranges from 30 to 60 minutes. The age of the participants ranged from 10 to 12 years, and representatives of each 4th to 6th-grade group of 3 students and teachers were appointed as responsible for several groups of school environmental management activities. The demographic information for 12 participants is outlined in Table 1.

Table 1. Participant Demographics

Participants				
Group	**Builder Identity**	**Student Identity**	**Class**	**Age**
1	Teacher	A B C	4	10
2		D E F	4	10
3		G H I	5	11
4		J K L	6	12

In data collection, primary data types (observations, focused discussions, semi-structured interviews) and secondary data were used. (dokumentasi, pencarian sumber lainnya). Observation is used to obtain data by conducting observations directly at the research site to see the reality in the field. A semi-structured interview is a conversation conducted to get the participants' ideas, responses, perceptions, feelings, understanding, and experiences. The documentation is designed to provide data to provide an overview of confirmation that the research carried out guaranteed its authenticity by including

evidence in the form of photographs. Table 2 shows the collection and transcription of data through semi-structured, face-to-face interviews conducted using pre-prepared interview guidelines. Participants were encouraged to speak freely and tell stories using their own words. Each discussion lasts 45 minutes to an hour and is done by the lead researcher. At the end of each interview, the researchers reminded participants of the need for a second contact through a telephone call to discuss the research findings and ensure that the results reflected their own experiences. The degree of data saturation is determined by the lead researcher and other independent researchers in the process carried out in parallel with data collection. Then, saturation is based on consensus between researchers. Eventually, the transcripts were reviewed by independent researchers who had experience in qualitative research.

Table 2. Semi-Structured Interview

Group	Question
1	How to love the school environment
2	How to create a comfortable and aesthetic school environment
3	How to manage garbage in school surroundings
4	How to integrate learning outside the classroom

Data analysis techniques are inductive, and research results emphasize the phenomena' meaning or findings rather than general generalization. Data analysis is done according to the Colaiizis analytical procedure for phenomenology. The following steps represent the Colaizzi process for phenomenological data analysis: (1) Each transcript must be read and re-read to gain a general understanding of the whole content; (2) Important statements relating to the phenomenon studied must be extracted for each transcript. These statements should be recorded on separate sheets with page and line numbers; (3) The meaning must be formulated from these essential statements; (4) Formulated meanings should be divided into categories, thematic groups, and thematic groupings; (5) Research findings must be integrated into a complete description of the studied phenomenon; (6) The fundamental structure of such phenomena must be explained; (7) Finally, validation of findings should be sought from research participants to compare the researchers' descriptive results with their experiences.

3. RESULT AND DISCUSSION

Result

The results of the study show that the theme and sub-theme of identity development in the Adiwiyata Study Program showed in Table 3 is the essence of student experience in school activities. The interview described in the themes research findings is show in Table 4.

Table 3. Themes in Identifying Environment

Themes	Subthemes
School Love Movement	Movement for Picking Up Trash
	Maintenance Hanging plants
	Hydrophonic vegetable care
	Greenhouse care
Champion Neatness and cleanliness (Jurasik)	Emptying the classroom bin
	Watering plants in front of the classroom
	Bring food and drink containers to reduce waste.
aste Processing	Organic Waste Processing
	Inorganic Waste Processing
Friendly environment	Making Biodigester
	Making Biopore Holes
	Making Compost

Table 4. Interview of the Participans

Themes	Interview Participants	Analysis
School Love Movement	"I have learned from the teacher how to take care of plants so that it can make the environment of the school also the plants can be processed for food, students are also	From the three experiences of these participants, the School Love Movement was carried out through garbage collection

Themes	Interview Participants	Analysis
	obliged to collect the garbage and dispose of it according to the type of it, this is done every day so it becomes a good habit in changing the behavior that does not care about the environment into caring for the environment as well asining the sustainability of both the surroundings of the home, school and public spaces (P1-students A)". It was also stated that "I became happy when I arrived at school and I was excited to learn because of the beautiful environment and the many plants that decorate the walls, and we are obliged to take care of the plants in the environment of the school (P2-Students B)". Other experience also shows that "I used to like to play games, but since being introduced with due diligence to the environment, especially in the school, I now enjoy fitting plants and spending a little time playing games (P3-Student C)".	movements, hanging crop maintenance, hydroponic vegetable care, and greenhouse care. It fosters students' awareness and love of the environment so that they can develop their social identity from an early age. The hope is that students can be agents of environmental change both at the school level (local) and at the global rank.
Championing Neatness and cleanliness (Jurasik)	"I bring everyday containers of food and beverages from home to reduce the garbage around the school; besides, the food is awake because it is processed by myself at home, and the food I am used to is not jajan smoothly outside of school, so I am not easily sick, and I can study in school well (P4-students D)". The students also said, "I am happy to be clean champion (Jurasik) because I and my friends will always race in hygiene and fragility in their respective classrooms; this affects my responsibility and awareness in environmental hygiene (P5-siswaE). Also, the student's observation is that "Clean environment benefits, among other things, a) by keeping the sources of disease from flourishing around us and b) by keeping its inhabitants comfortable and in well-awakened health (P6-students F)".	The cultural movement of love of the environment in the school is demonstrated by the increased awareness of students to dispose of garbage at their place, the responsibility of each student to clean the classroom and its surroundings, the presence of a sink in every class, and almost every room, and the culture of handcuffing every activity. The student's health becomes more assured. The condition causes students to come to school to study, rest, and cheerfully hang out in the courtyard or the corner of the school garden. Champion neatness and cleanliness (Jurasik) activities are done by emptying class trash, watering plants in front of a class, and bringing containers of food and beverages to reduce garbage.
Garbage processing	Some students told her about their experience: "I'm happy to be able to participate in school environmental activities, especially garbage because I'm so aware of the kinds of garbage and how to handle the types of organic and non-organic waste through 3 R (P7-student G). Organic waste is easily degradable, so it can become plant fertilizer, whereas non-organic garbage is classified in three ways: reducing, reusing, and recycling. (P8-Student H). In addition, it is also said that " used the system of dumped trash banks of economic value; school citizens are accustomed to sorting according to type and then converting the garbage into more valuable goods so that it can help reduce the	The knowledge, attitude, and skills of citizens to manage household garbage to recycle are also crucial in garbage management so that the community's economy can progress further by developing a handy handicraft worth selling from waste.

Themes	Interview Participants	Analysis
	waste that is difficult to decompose. (P9-Student I)	
Environmentally friendly activities	Some students also talked about their experience, saying, "This is a very beneficial experience; I gained knowledge and skills on how to process organic garbage, including compost, biogas, and making biopori holes, as well as livestock feed. (P10-Student J). In addition, it is said that "It turns out there is no need to buy expensive livestock food because, by processing the residues of fruit and vegetables, they can be utilized so that no waste is wasted and pollutes the environment (P11-Students K)". Other students also shared their experiences: I learned to make biopore holes so that they would absorb water and organic waste in the holes would become food for earthworms (P12-Student L)".	Environmentally friendly activities can increase knowledge and improve students' skills in utilising environmental waste into materials that are useful for plants and human needs.

Based on Table 4, all the findings of this study emphasize four themes: the School Love Movement, Champion Neatness and cleanliness (Jurasik), waste management, and environmentally friendly activities. Developing environmental identity to increase student engagement and responsibility in environmental issues, create a healthier environment, and overcome and avoid adverse environmental impacts. From the various activities above, the identity function allows individuals to find a place in the social sphere to understand and explain reality. Table 5 shows how to build a student's environmental identity to cultivate a pro-environmental attitude.

Table 5. Environmental Identity Development

Number	Activities	Participants	Person responsible
1	Class cleaning routine (sweeping, cleaning the windows, cleaning the school yard)	Students of 1- 6 Grade	Teachers
2	Garbage picking activity	All school residents (students, teachers, school guards) everyday	Teacher
3	Emptying classroom bin	Students of 5 - 6 Grade	Teacher
4	Maintenancing Green Wall (school wall) Hanging plants	Students of 6 Grade	Teacher of 6 Grade
5	Hydrophonic vegetable care	Students of 5 Grade	Teacher of 5 Grade
6	Trash sorting (organic and inorganic)	All school residents	Teacher
7	Bringin leftovers (vegetable) from home for biodigester	Students of 4 - 6 Grade	Teacher of 4-6 Grade
8	Watering plants in front of the classroom	Students of 4 – 6 Grade	Teacher of 4 -6 Grade
9	Harvesting and selling to school residents	Environmental ambassador	Teachers
10	Handwashing after garbage picking activity	All students	Teachers
11	Bringing food and drink container to reduce waste	All students	Teachers
12	Creating compost with biopore hole	Students of 5 - 6 Grade	Teachers
13	Green house care	Students of 4 Grade	Teachers
14	Fish pond care	Students of 6 Grade	Teachers
15	Adiwiyata activity is reported to the head of the education office and Department of Environment and Forestry	Chairman of Adiwiyata	Principal

Based on Table 5 shows that activities are integrated into student learning experiences related to the environment, and the development of ecological identity is carried out through the involvement of whole individuals in school activities, including daily environmental hygiene performed in groups to develop a sense of responsibility and awareness in each individual and change the behavior of those who are still less concerned about the environment, such as disposing of garbage instead of the type of waste. The students should start sorting up organic and non-organic trash (Kerret et al., 2020a; McGuire, 2015). It is collective knowledge that regulates behavior about values in developing environment identity.

Discussion

The findings in this study suggest that children's environmental identities are closely linked to their experiences in nature. This can be explained implicitly through the research findings according to the research objective, namely cultivating students' environmental identity based on the following themes: Based on the School Love Movement, the needs of school citizens can be met through various activities that support self-development in the Adiwiyata program. These activities are aimed at improving the knowledge and skills of students to cultivate the identity of the student environment, as well as enhancing the literacy and creativity of students. It affects the spirits of students and teachers by creating a clean, healthy, and comfortable environment while conducting teaching and learning activities in schools. Based on the theme of Neatness and cleanliness (Jurasik), Neatness is a harmonious atmosphere within ourselves and with others, whether in the family, school, office, or the environment around us. Clean schools show no garbage thrown into the river, many trees, immaculate gardens, and a healthy environment. A clean environment can be beneficial because the source of disease doesn't flourish around us, and school residents are comfortable and well awake. The hygiene of the environment can reflect the personalities of the people who live in it, such as the school courtyard that is always clean, which shows the personality of school citizens who have a high value of beauty towards themselves and their surroundings. A pure life will affect our souls; for example, if our school is clean, our hearts will be happy, just as if the classroom and school environments are clean, the learning atmosphere will feel more comfortable and enjoyable so that the learning results will be maximum. Based on the theme of waste management, organic waste is waste that can rot or disintegrate with the help of other bacteria. Organic waste can be used as compost and biogas fertilizer. Organic waste includes waste that is easy to reuse and not harmful to the earth. However, untreated organic waste can also cause environmental disturbances, such as the appearance of unpleasant odours that disrupt the comfort of the surrounding community and make the environment look dirty. Therefore, although it can be easily decomposed, organic garbage must also be carefully handled. At the same time, debris that can't be spoiled by ordinary soil is called inorganic or non-organic. Inorganic waste is garbage from human residue that is difficult to decompose by bacteria, so spoiling takes a long time. Organic waste can be dealt with by 3R methods (reduce, reuse, recycle) and a waste bank. The principle of a garbage bank is to collect trash that can still be used for other products, such as home decoration. Based on the theme of environmentally friendly activities, Organic waste can be processed into other more beneficial products, like organic compost and a gas substitute for LPG for cooking. Besides, some organic garbage can be recovered without having to be processed.

For example, the use of vegetable residues for livestock feed. The results obtained in processing organic waste are as follows: (1) Biopori production uses organic waste in the form of dried leaves that are generally only cleaned and then burned. Now, students can create biopori as a waste processing organic; (2) Compost: Some of the organic garbage that can be turned into compost is food waste, ranging from vegetables to rotten meat, leaves, grass, pieces of wood, old-fashioned spices, and pet dirt. The results are very beneficial to the environment and can reduce the use of chemical fertilizers, leading to environmental pollution; (3) Biogas, organic garbage, such as animal debris, and other materials can be used as biogas and substitutes for LPG gas so that the energy use of petroleum can be reduced; (4) Livestock feed and some organic waste, such as fruit and vegetable residues, can be used by communities that keep cattle, goats, and poultry to save on the cost of caring for the cattle. The novelty emphasis of the discussion is environmentally friendly activities can develop students' environmental identities from an early age so that students can take action through practices that refer to relevant behavior. Environmental techniques such as socio-ecological transformation raise awareness of sustainability for the empowerment of individuals (Kopnina, 2020; Yakamovich & Wright, 2021). Individual and group involvement in growth and learning practices is carried out through culture (Morton et al., 2017; Werff et al., 2014; C. C. Williams & Chawla, 2016). Cultural dynamics emphasizing practices and differences across activities can develop individual identities in the social environment (Foot, 2014; Morton et al., 2017). Cultural norms in social practice can be achieved in four ways: (1) identifying cultures; (2) acting according to values and accountability towards groups; (3) developing knowledge and acting within cultures that they identify; and (4) overcoming barriers to revitalizing identities. These four things

emphasize that when a person becomes a member of a particular group, they internalize that culture into their self-identification (Iflaifel et al., 2020; S. Williams & McEwen, 2021). Previous research encourage interaction and collaboration to strengthen social relationships through feedback and reflection in the learning process (Li & Krasny, 2021; Muda et al., 2020). This recognition can promote recursive identity development as family and friends continue to support and expect environmental care from young people. The findings of this study clearly showed that social interaction is crucial in developing an ecological identity, and interaction with peers drives environmental action. The theory of social identity has emphasized the critical role of practice, effort, and recognition in identity development. Applying this construction to environmental identity shows participation and action in environmental activities, as well as recognition as an ecological actor, have the potential for further environmental identity development. Furthermore, the school is expected to involve the surrounding community in various activities that benefit the school community and green infrastructure (Hefni & Ahmadi, 2022; Zuniga-Teran et al., 2020). Local community participation is essential for ecological conservation and economic development in the nature reserve because public participation as a stakeholder in environmental issues has a significant impact, but also harms certain conditions (Challies et al., 2017; Huang et al., 2019; Newig et al., 2018). (Holifield & Williams, 2019a) found that integrating long-term sustainable participation can create challenges in developing students' environmental identities (Filho et al., 2015; Holifield & Williams, 2019b).

From the perspective of previous research children who follow environmental management programs are more pro-environmental and have higher satisfaction than children who do not follow an environmental agenda (Alkaher & Gan, 2020; Kerret et al., 2020b). Environmental action forms the identity of the environment, and direct involvement in ecological projects can advance environmental care and awareness. Participation can lead to recognition as an ecological perpetrator. Students are recognized for their actions and care for each other's environment during the program. The community facilitates the further development of environmental identity due to the involvement in extensive experiences and the positioning of students as ecological experts in their community. If it is connected with reconstruction of identity development through themes such as school love movements, championing neatness and cleanliness, garbage management, and being environmentally friendly, along with process analysis that is integrated into social practice, can build environmental identity in the learning process (Liddicoat & Krasny, 2014; C. C. Williams & Chawla, 2016). Individual action as a metaphor for providing consistent guidance on behavior emphasizes the potential for identity development in the learning process environment (Kerret et al., 2020a; McGuire, 2015). This article uses the theory of sociocultural identity to explore how practice, action, and recognition can facilitate environmental identity development. The concept of identity as a meta-perspective moves behavior in a specific direction, similar to the navigation process that individuals go through for meaningful practice. Individuals change their behavior to align their identities, which can greatly impact other groups. This is an example of an individual's 'identity flexibility' to realize meaningful practices (Eriksson et al., 2020; Sharif & Cho, 2015).

In addition, environmental awareness must be approached concerning the context of local development or the lives of children so that they can form their understanding, examine facts critically, and ultimately make personal decisions responsible for solving problems in developing individual social identity. In exploring the concept of identity concerning environmental education, environmental identity development has been specifically recognized as an important aspect of the learning experience in connection with nature (Green et al., 2016; McGuire, 2015). (Clayton & Opotow, 2018) describes environmental identity as "a sense connected to some part of the natural environment that is not human, based on history, emotional attachment, and/or similarity, which affects the way we view and act towards the world" (p. 45–46) (Hestness et al., 2019; Morton et al., 2017). In line with how affirm that identity is historically produced in social practice theory, both experimental data and retrospective narratives suggest that individual memories of past experiences with nature also produce environmental identities (Foot, 2014; Werff et al., 2014; C. C. Williams & Chawla, 2016).

According to previous study, the fundamental idea of this environmental approach to values ecology is to address the axiological issues connecting language, life forms, and the environment. Bioecological awareness can provide new ways of tackling the many interconnected elements that make humans central in the ecological crisis (Penz & Fill, 2022; Zhou, 2017). Previous research argue that the theory of ecolinguistics gives attention to the field's axiological and ethical dimensions (Finke, 2014; Zhou, 2017). Therefore, the study draws on the moral and axiological values of how ecolinguistics is embodied to improve understanding of the interconnectedness of the living and the non-living. In addition to teaching the action mentioned above, fostering children's sense of agency to act responsibly towards the environment necessitates moving beyond the private realm (i.e., recycling and turning off lights at home) to the public sphere of societal problem-solving (Green et al., 2016; McGuire, 2015). Children and young

people need to take personal ownership of the issues they work on, choose important goals independently as individuals, and integrate the actions they take for the common good into their sense of identity (Green et al., 2016; McGuire, 2015). In this study, it shows that there is a relationship between Dewey's pragmatic philosophy of ' something that children achieve together in transactions' through anticipation, a series of actions, and fulfillment (Borg & Samuelsson, 2022; Caiman & Lundegård, 2014). Researchers in ECEfS have described a collaborative approach that fosters a 'culture of sustainability' in which children, educators, families, and community members can work together to address relevant issues in their communities (Dyment et al., 2014; Pollock et al., 2017). However, it is critical to recognize that the scale of such action in early childhood must be personally, socially, and culturally relevant, with locations in schools, neighborhoods, and other familiar environments. Several ECEfS scholars have noted a holistic approach in which young people are involved in agency and supported to effect change (Caiman & Lundegård, 2014; Davis & Elliott, 2014). Adults can also facilitate children's agency to act independently for sustainability when children have built trust, autonomy, and a sense of competence in their familiar environment. Similarly, a phase of environmental action covers three dimensions: within/from, about, and for the ecological model, emphasizing facilitating children's agencies to act responsibly for the natural environment (Werff et al., 2014; C. C. Williams & Chawla, 2016). So, the educator should take the children out and allow them to form an individual bond with nature. This study implies that educators should be careful when teaching children what it means to take care of the environment. In a certain sense, children acquire the competence to act appropriately within the norms of society and think about actions continuously (indirectly or explicitly) in educational settings. Besides, educators should also emphasize what it means to take environmental action. Teachers can empower children to act explicitly teaching three components of action: (1) plan or learn how to act; (2) act; and (3) think about action (Kemper et al., 2019; Piasentin & Roberts, 2018). Environmentally responsible behavior teaches specific behaviors and critical thinking that empower and motivate action in this way, the natural environment must be considered and treated as an integral part of society (Lange & Dewitte, 2019, 2022).

4. CONCLUSION

This study discusses children's environmental identities through meaningful engagement and interaction. Considering the extent to which social interaction affects the development of a child's environmental identity through ecological programmes to create sustainable experiences, interaction with people who have real experience with environmental issues can help them develop an identity. The Adiwiyata programme groups of participants are united in a supportive, non-judgmental, and open community where they can share knowledge and discuss ways to implement environmental management actions, encouraging the development of ecological identities. Identity development supported by social learning processes can effectively affect environmental education practices.

5. ACKNOWLEDGE

Thank you to the research and community service agency (LP2M) UIN Sunan Gunung Djati No: 134/Us.05/V.2/Kp.02.3/03/2020 and the school institution, the participants, and stakeholders who have provided support and contributions to this research.

6. REFERENCES

Alkaher, I., & Gan, D. (2020). The role of school partnerships in promoting education for sustainability and social capital. *The Journal of Environmental Education*, *51*(6), 416–433. https://doi.org/10.1080/00958964.2020.1711499.

Ardoin, N. M., Bowers, A. W., Roth, N. W., & Holthuis, N. (2018). Environmental education and K-12 student outcomes: A review and analysis of research. *The Journal of Environmental Education*, *49*(1), 1–17. https://doi.org/10.1080/00958964.2017.1366155.

Beldad, A. D., & Hegner, S. M. (2018). Expanding the technology acceptance model with the inclusion of trust, social influence, and health valuation to determine the predictors of German users' willingness to continue using a fitness app: A structural equation modeling approach. *International Journal of Human–Computer Interaction*, *34*(9), 882–893. https://doi.org/10.1080/10447318.2017.1403220.

Borg, F., & Samuelsson, I. P. (2022). Preschool children's agency in education for sustainability: The case of Sweden. *European Early Childhood Education Research Journal*, *30*(1), 147–163. https://doi.org/10.1080/1350293X.2022.2026439.

Braun, T., & Dierkes, P. (2017). Connecting students to nature–how intensity of nature experience and student age influence the success of outdoor education programs. *Environmental Education Research*, *23*(7), 937–949. https://doi.org/10.1080/13504622.2016.1214866.

Brussoni, M., Ishikawa, T., Brunelle, S., & Herrington, S. (2017). Landscapes for play: Effects of an intervention to promote nature-based risky play in early childhood centres. *Journal of Environmental Psychology*, *54*, 139–150. https://doi.org/10.1016/j.jenvp.2017.11.001.

Bürgener, L., & Barth, M. (2018). Sustainability competencies in teacher education: Making teacher education count in everyday school practice. *Journal of Cleaner Production*, *174*, 821–826. https://doi.org/10.1016/j.jclepro.2017.10.263.

C. Monroe, M., Crandall, C., & T. Maynard, L. (2021). Conservation behavior can defy traditional predictors". *The Journal of Environmental Education*, *52*(3), 149–161. https://doi.org/10.1080/00958964.2021.1899108.

Caiman, C., & Lundegård, I. (2014). Pre-school children's agency in learning for sustainable development. *Environmental Education Research*, *20*(4), 437–459. https://doi.org/10.1080/13504622.2013.812722.

Challies, E., Newig, J., Kochskämper, E., & Jager, N. W. (2017). Governance change and governance learning in Europe: Stakeholder participation in environmental policy implementation. *Policy and Society*, *36*(2), 288–303. https://doi.org/10.1080/14494035.2017.1320854.

Clayton, S., & Opotow, S. (2018). Identity and the Natural Environment. In *Identity and the Natural Environment*. https://doi.org/10.7551/mitpress/3644.001.0001.

Dakir, D., & Anwar, H. (2020). Nilai-Nilai Pendidikan Pesantren Sebagai Core Value dalam Menjaga Moderasi Islam di Indonesia. *Jurnal Islam Nusantara*, *3*(2), 495–517. https://doi.org/https://doi.org/10.33852/jurnalin.v3i2.155.

Daly, C. J., Bulloch, J. M., Ma, M., & Aidulis, D. (2016). A comparison of animated versus static images in an instructional multimedia presentation. *Advances in Physiology Education*, *40*(2), 201–205. https://doi.org/10.1152/advan.00053.2015.

Davis, J., & Elliott, S. (2014). Research in early childhood education for sustainability: International perspectives and provocations. *International Journal of Early Childhood Environmental Education*, *2*(1), 172–180. https://doi.org/10.1177/0973408215625554.

Dyment, J. E., Davis, J. M., Nailon, D., Emery, S., Getenet, S., McCrea, N., & Hill, A. (2014). The impact of professional development on early childhood educators' confidence, understanding and knowledge of education for sustainability. *Environmental Education Research*, *20*(5), 660–679. https://doi.org/10.1080/13504622.2013.833591.

Eriksson, P. L., Wängqvist, M., Carlsson, J., & Frisén, A. (2020). Identity development in early adulthood. *Developmental Psychology*, *56*(10), 1968–1983. https://doi.org/10.1037/dev0001093.

Filho, W. L., Shiel, C., & Paço, A. D. (2015). Integrative approaches to environmental sustainability at universities: an overview of challenges and priorities. *Journal of Integrative Environmental Sciences*, *12*(1), 1–14. https://doi.org/10.1080/1943815X.2014.988273.

Finke, P. (2014). The ecology of science and its consequences for the ecology of language. *Language Sciences*, *41*, 71–82. https://doi.org/10.1016/j.langsci.2013.08.008.

Fischer, H. A., & Wentz, E. A. (2021). Place attachment and learning outcomes among tourists who volunteer for a U.S. National Park science volunteer program. *Applied Environmental Education & Communication*, *20*(2), 123–138. https://doi.org/10.1080/1533015X.2020.1726840.

Foot, K. A. (2014). Cultural-Historical Activity Theory: Exploring a Theory to Inform Practice and Research. *Journal of Human Behavior in the Social Environment*, *24*(3), 329–347. https://doi.org/10.1080/10911359.2013.831011.

Frantz, C. M., & Mayer, F. S. (2014). The importance of connection to nature in assessing environmental education programs. *Studies in Educational Evaluation*, *41*, 85–89. https://doi.org/10.1016/j.stueduc.2013.10.001.

Frensley, T. B., Stern, M. J., & Powell, R. B. (2020). Does student enthusiasm equal learning? The mismatch between observed and self-reported student engagement and environmental literacy outcomes in a residential setting. *The Journal of Environmental Education*, *51*(6), 449–461. https://doi.org/10.1080/00958964.2020.1727404.

Green, C., Kalvaitis, D., & Worster, A. (2016). Recontextualizing psychosocial development in young children: a model of environmental identity development. *Environmental Education Research*, *22*(7), 1025–1048. https://doi.org/10.1080/13504622.2015.1072136.

Greene, J. A., Copeland, D. Z., & Deekens, V. M. (2021). A model of technology incidental learning effects. *Educational Psychology Review*, *33*(3), 883–913. https://doi.org/10.1007/s10648-020-09575-5.

Habyarimana, J. D. D., Tugirumukiza, E., & Zhou, K. (2022). Physical Education and Sports: A Backbone of the Entire Community in the Twenty-First Century. *International Journal of Environmental Research and Public Health*, *19*(12). https://doi.org/10.3390/ijerph19127296.

Hefni, W., & Ahmadi, R. (2022). Facing Religious Contemporary Challenges: Redefining the Partnership of Islamic Higher Education and Islamic Religious Instructors in Mainstreaming Religious Moderation. *Jurnal Penelitian*, *19*(2), 109–118. https://doi.org/10.28918/jupe.v19i2.6161.

Hestness, E., McGinnis, J. R., & Breslyn, W. (2019). Examining the relationship between middle school students' sociocultural participation and their ideas about climate change. *Environmental Education Research*, *25*(6), 912–924. https://doi.org/10.1080/13504622.2016.1266303.

Holifield, R., & Williams, K. C. (2019a). Recruiting, integrating, and sustaining stakeholder participation in environmental management: A case study from the Great Lakes Areas of Concern. *Journal of Environmental Management*, *230*(May 2018), 422–433. https://doi.org/10.1016/j.jenvman.2018.09.081.

Holifield, R., & Williams, K. C. (2019b). Recruiting, integrating, and sustaining stakeholder participation in environmental management: A case study from the Great Lakes Areas of Concern. *Journal of Environmental Management*, *230*, 422–433. https://doi.org/10.1016/j.jenvman.2018.09.081.

Huang, Y., Fu, J., Wang, W., & Li, J. (2019). Development of China's nature reserves over the past 60 years: An overview. *Land Use Policy*, *80*, 224–232. https://doi.org/10.1016/j.landusepol.2018.10.020.

Huber, M. M., Leach-López, M. A., Lee, E., & Mafi, S. L. (2020). Improving accounting student writing skills using writing circles. *Journal of Accounting Education*, *53*, 100694.

Iflaifel, M., Lim, R. H., Ryan, K., & Crowley, C. (2020). Resilient Health Care: A systematic review of conceptualisations, study methods and factors that develop resilience. *BMC Health Services Research*, *20*(1), 1–21. https://doi.org/10.1186/s12913-020-05208-3.

James, J. K., & Williams, T. (2017). School-Based Experiential Outdoor Education: A Neglected Necessity. *Journal of Experiential Education*, *40*(1), 58–71. https://doi.org/10.1177/1053825916676190.

Jia, F., Soucie, K., Alisat, S., Curtin, D., & Pratt, M. (2017). Are environmental issues moral issues? Moral identity in relation to protecting the natural world. *Journal of Environmental Psychology*, *52*, 104–113. https://doi.org/10.1016/j.jenvp.2017.06.004.

Kaya, B., & Karatepe, O. M. (2020). Attitudinal and behavioral outcomes of work-life balance among hotel employees: The mediating role of psychological contract breach. *Journal of Hospitality and Tourism Management*, *42*(January), 199–209. https://doi.org/10.1016/j.jhtm.2020.01.003.

Kemper, J. A., Ballantine, P. W., & Hall, C. M. (2019). Combining the 'why' and 'how' of teaching sustainability: the case of the business school academics. *Environmental Education Research*, *25*(12), 1751–1774. https://doi.org/10.1080/13504622.2019.1667959.

Kerret, D., Orkibi, H., Bukchin, S., & Ronen, T. (2020a). Two for one: achieving both pro-environmental behavior and subjective well-being by implementing environmental-hope-enhancing programs in schools. *Journal of Environmental Education*, *51*(6), 434–448. https://doi.org/10.1080/00958964.2020.1765131.

Kerret, D., Orkibi, H., Bukchin, S., & Ronen, T. (2020b). Two for one: achieving both pro-environmental behavior and subjective well-being by implementing environmental-hope-enhancing programs in schools. *Journal of Environmental Education*, *51*(6), 434–448. https://doi.org/10.1080/00958964.2020.1765131.

Kopnina, H. (2020). Education for the future? Critical evaluation of education for sustainable development goals. *Journal of Environmental Education*, *51*(4), 280–291. https://doi.org/10.1080/00958964.2019.1710444.

Lange, F., & Dewitte, S. (2019). Measuring pro-environmental behavior: Review and recommendations. *Journal of Environmental Psychology*, *63*, 92–100. https://doi.org/10.1016/j.jenvp.2019.04.009.

Lange, F., & Dewitte, S. (2022). The Work for Environmental Protection Task: A consequential web-based procedure for studying pro-environmental behavior. *Behavior Research Methods*, *54*(1), 133–145. https://doi.org/10.3758/s13428-021-01617-2.

Li, Y., & Krasny, M. E. (2021). Relationship between professional networks and practice change in environmental education. *Journal of Environmental Education*, *52*(3), 174–189. https://doi.org/10.1080/00958964.2021.1899107.

Liddicoat, K. R., & Krasny, M. E. (2014). Memories as useful outcomes of residential outdoor environmental education. *Journal of Environmental Education*, *45*(3), 178–193. https://doi.org/10.1080/00958964.2014.905431.

McGuire, N. M. (2015). Environmental education and behavioral change: An identity-based environmental education model. *International Journal of Environmental and Science Education*, *10*(5), 695–715. https://doi.org/10.12973/ijese.2015.261a.

Morton, T. A., van der Bles, A. M., & Haslam, S. A. (2017). Seeing our self reflected in the world around us: The role of identity in making (natural) environments restorative. *Journal of Environmental Psychology*, *49*, 65–77. https://doi.org/10.1016/j.jenvp.2016.11.002.

Muda, S., Rahman, M. R. C. A., Hamzah, N., & Saleh, N. M. (2020). Intellectual Capital and SMEs' Business Performance from an Organisational Lifecycle Perspective. *The South East Asian Journal of Management*, *14*(1). https://doi.org/10.21002/seam.v14i1.11939.

Newig, J., Challies, E., Jager, N. W., Kochskaemper, E., & Adzersen, A. (2018). The Environmental Performance of Participatory and Collaborative Governance: A Framework of Causal Mechanisms. *Policy Studies Journal*, *46*(2), 269–297. https://doi.org/10.1111/psj.12209.

Penz, H., & Fill, A. (2022). Ecolinguistics: History, today, and tomorrow. *Journal of World Languages*, *8*(2), 232–253. https://doi.org/10.1515/jwl-2022-0008.

Piasentin, F. B., & Roberts, L. (2018). What elements in a sustainability course contribute to paradigm change and action competence? A study at Lincoln University, New Zealand. *Environmental Education Research*, *24*(5), 694–715. https://doi.org/10.1080/13504622.2017.1321735.

Pinkard, N. (2019). Freedom of Movement: Defining, Researching, and Designing the Components of a Healthy Learning Ecosystem. *Human Development*, *62*(1–2), 40–65. https://doi.org/10.1159/000496075.

Pollock, K., Warren, J., & Andersen, P. (2017). Inspiring Environmentally Responsible Preschool Children through the Implementation of the National Quality Framework : Uncovering what Lies between Theory and Practice. *Australasian Journal of Early Childhood*, *42*(2), 12–19. https://doi.org/10.23965/AJEC.42.2.02.

Schwartz, D., & Loewenstein, G. (2017). The chill of the moment: Emotions and proenvironmental behavior. *Journal of Public Policy and Marketing*, *36*(2), 255–268. https://doi.org/10.1509/jppm.16.132.

Sefton-Green, J., & Erstad, O. (2017). Researching 'learning lives'–a new agenda for learning, media and technology. *Learning, Media and Technology*, *42*(2), 246–250. https://doi.org/10.1080/17439884.2016.1170034.

Sharif, A., & Cho, S. (2015). 21st-century instructional designers: Bridging the perceptual gaps between identity, practice, impact and professional development. *International Journal of Educational Technology in Higher Education*, *12*(3), 72–85. https://doi.org/10.7238/rusc.v12i3.2176.

Stapleton, S. R. (2015). Environmental Identity Development Through Social Interactions, Action, and Recognition. *The Journal of Environmental Education*, *46*(2), 94–113. https://doi.org/10.1080/00958964.2014.1000813.

Torkar, G., & Bogner, F. X. (2019). Environmental values and environmental concern. *Environmental Education Research*, *25*(10), 1570–1581. https://doi.org/10.1080/13504622.2019.1649367.

Vebrianto, R., & Wahyuni, S. (2023). Mapping Student Character Education on Biotechnology Material. *Indonesian Values and Character Education Journal*, *6*(2), 174–181. https://doi.org/10.23887/ivcej.v6i2.56084.

Werff, E., Steg, L., & Keizer, K. (2014). I Am What I Am, by Looking Past the Present: The Influence of Biospheric Values and Past Behavior on Environmental Self-Identity. *Environment and Behavior*, *46*(5), 626–657. https://doi.org/10.1177/0013916512475209.

Williams, C. C., & Chawla, L. (2016). Environmental identity formation in nonformal environmental education programs. *Environmental Education Research*, *22*(7), 978–1001. https://doi.org/10.1080/13504622.2015.1055553.

Williams, S., & McEwen, L. (2021). Learning for resilience' as the climate changes: discussing flooding, adaptation and agency with children. *Environmental Education Research*, *27*(11), 1638–1659. https://doi.org/10.1080/13504622.2021.1927992.

Yakamovich, J., & Wright, T. (2021). Care-full, convivial, curious: Weaving Canadian artists' conceptions of art as a form of transformative environmental education. *Journal of Environmental Education*, *52*(4), 223–238. https://doi.org/10.1080/00958964.2021.1929801.

Zhou, W. (2017). Ecolinguistics: Towards a new harmony. *Language Sciences*, *62*, 124– 138. https://doi.org/10.1016/j.langsci.2017.04.004.

Zimmerman, H. T., & Weible, J. L. (2017). Learning in and about rural places: Connections and tensions between students' everyday experiences and environmental quality issues in their community. *Cultural Studies of Science Education*, *12*, 7–31. https://doi.org/10.1007/s11422-016-9757-1.

Zuniga-Teran, A. A., Staddon, C., Vito, L., Gerlak, A. K., Ward, S., Schoeman, Y., Hart, A., & Booth, G. (2020). Challenges of mainstreaming green infrastructure in built environment professions. *Journal of Environmental Planning and Management*, *63*(4), 710–732. https://doi.org/10.1080/09640568.2019.1605890.