

The role of Jatmika Reading House volunteers in instilling children's environmental literacy

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Abstract

Jatmika Reading House is a community library that actively teaches environmental literacy through various activities, one of which is eco-enzyme making. This study aims to explore the role of volunteers in eco-enzyme making, identify the challenges faced during the activity, and understand the motivation of volunteers in contributing to Jatmika Reading House's activities. This research used a qualitative method with a case study approach. The informants in this study were two volunteers who were selected through a purposive sampling technique due to their direct involvement in eco-enzyme-making activity. Data collection techniques included interviews, indirect observation, documentation, and literature review. This research is important because although environmental education has developed, there are still few studies that specifically discuss the role of volunteers in teaching environmental literacy to children. In fact, volunteers have a strategic role in introducing the concept of sustainability and building environmental awareness through community activities. The results showed that volunteers acted as facilitators, mentors, instructors, encouragers, and organizers of children's participation. They faced various challenges, such as uncondusive conditions due to limited tools and materials and an inadequate number of volunteers, resulting in less optimal activity management. Volunteers' motivations varied, ranging from the satisfaction of sharing knowledge and commitment to improving community literacy to personal happiness in social interaction. The findings from this study are expected to provide new insights to strengthen environmental literacy programs involving volunteers.

Keywords: Environmental literacy; Green literacy; Community library

Peran sukarelawan Rumah Baca Jatmika dalam menanamkan literasi lingkungan anak-anak

Abstrak

Rumah Baca Jatmika merupakan Taman Bacaan Masyarakat/perpustakaan komunitas yang aktif mengajarkan literasi lingkungan melalui berbagai kegiatan, salah satunya pembuatan eco-enzyme. Penelitian ini bertujuan untuk menggali peran relawan Rumah Baca Jatmika dalam kegiatan pembuatan eco-enzyme di SD Alam Al-Ghozali, mengidentifikasi tantangan yang dihadapi selama kegiatan, dan memahami motivasi relawan dalam berkontribusi dalam kegiatan Rumah Baca Jatmika. Penelitian ini menggunakan metode kualitatif dengan pendekatan studi kasus. Informan dalam penelitian ini adalah dua orang relawan yang dipilih melalui teknik purposive sampling karena mereka terlibat langsung dalam kegiatan pembuatan eco-enzyme. Teknik pengumpulan data meliputi wawancara, observasi tidak langsung, dokumentasi, dan studi pustaka. Penelitian ini penting karena meskipun pendidikan lingkungan sudah berkembang, namun masih sedikit penelitian yang secara khusus membahas peran relawan dalam mengajarkan literasi lingkungan kepada anak. Padahal, relawan mempunyai peran strategis dalam mengenalkan konsep keberlanjutan dan membangun kesadaran lingkungan melalui kegiatan masyarakat. Hasil penelitian menunjukkan bahwa relawan berperan sebagai fasilitator, pembimbing, pengajar, pemberi semangat dan penyelenggara partisipasi anak. Berbagai tantangan yang mereka hadapi, seperti kondisi yang kurang kondusif karena keterbatasan alat dan bahan, serta jumlah relawan yang kurang memadai sehingga mengakibatkan kurang optimalnya pengelolaan kegiatan. Motivasi relawan beragam, mulai dari kepuasan berbagi ilmu, komitmen meningkatkan literasi masyarakat, hingga kebahagiaan pribadi dalam berinteraksi sosial. Temuan penelitian ini diharapkan dapat memberikan wawasan baru untuk memperkuat program literasi lingkungan yang melibatkan relawan.

Kata Kunci: Literasi lingkungan; Literasi hijau; Perpustakaan komunitas

INTRODUCTION

Jatmika Reading House is a *Taman Bacaan Masyarakat* (TBM) or community library under the auspices of the West Java TBM Forum located on Jalan Cilengkrang 1, Cisurupan, Cibiru District, Bandung, West Java. Jatmika Reading House was established on February 14, 2021, as a form of non-formal education services for the surrounding community, especially mothers and children. Jatmika Reading House provides general services such as lending books, as well as being an informal learning place by organizing various learning activities, including environmental literacy activities, which are beneficial for the surrounding community. Some of the environmental literacy activities organized include tree planting activities, making eco-bricks, utilizing used cooking oil in soap, teaching disaster mitigation, making pop-up cards for Earth Day, and tentative activities such as eco-enzyme making. These activities were attended by people of all ages, from adults to children.

The implementation of environmental literacy activities at Jatmika Reading House certainly cannot be separated from the participation of people who volunteer to help run the activity. People who voluntarily contribute to helping an activity are called volunteers. The definition above is in accordance with the definition of volunteer according to Mishra et al. (2024), which is an individual who provides their services willingly and without reward to support a charitable organization or community group in various activities or events. Nichol et al. (2024) define volunteering as “conducting work or activity without payment for those outside of the family or household.”

Currently, volunteers who join Jatmika Reading House consist of university students and the public from various ages.

The term “environmental literacy” was first used in 1968 in an article written for the Massachusetts Audubon Society (Dada, 2018). Environmental literacy is a conscious attitude toward maintaining a balanced environment (Kusumaningrum, 2018). Children's ability and understanding of environmental literacy are cognitive and affective abilities (Herawati et al., 2023). One of the environmental literacy activities, eco-enzyme making, is an example of efforts to create a conscious attitude in children to protect and maintain the surrounding environment. Children can learn about the natural fermentation process and how to turn organic waste into useful products. Through environmental literacy activities, the volunteers teach children to understand environmental issues and learn to take responsible action to preserve their ecosystems.

As stated in Sari et al. (2020), environmental literacy is one of the skills that students must have in the 21st century. In an era characterized by climate change, biodiversity decline, and global environmental issues, environmental literacy is certainly the foundation for an in-depth understanding of the challenges and solutions needed to maintain ecosystem balance and world sustainability. Environmental literacy, as identified by Cincera et al. (2023), can be influenced by various demographic factors. Demographic factors such as age group, socioeconomic background, type of occupation, and other factors play an important role in shaping environmental literacy. Children at SD Alam Al Ghozali tend to get their environmental literacy skills from school

learning activities that involve them directly with nature. The school provides access to children to improve their environmental literacy skills by supporting learning through various outdoor activities, such as making eco-enzymes. In this case, teachers play an important role by integrating environmental materials into various subjects so that schools also instill practical skills and sustainable behaviors that can be applied in everyday life. In addition, schools can also involve external parties to enrich the school's environmental literacy program. For example, SD Alam Al Ghozali has invited volunteers from Jatmika Reading House to teach children how to make eco-enzymes.

This study also discussed volunteers' motivation and challenges. Motivation is a complex part of human psychology and behavior that influences how individuals invest their time, how much energy they expend on a particular task, how they think and feel about a task, and how long they persist in a task (Bakar, 2014). Volunteers are often motivated by internal factors such as personal satisfaction, shared values with the organization, concern for the welfare of beneficiaries, and a desire to hone their skills (Intan & Sitio, 2017). Furthermore, six factors motivate volunteers to engage in activities, including values (such as altruism and concern for others), understanding, social aspects, career development, ego protection (which involves reducing negative emotions), and ego enhancement (which includes personal growth and self-esteem) (Alender, 2016; Mokhzan et al., 2023). This research will further analyze the motivations that encourage volunteers to participate in Jatmika Reading House's activities in

accordance with the six things that motivate volunteers mentioned above.

This research is worth conducting as there have been few studies that deeply examine the role of volunteers in teaching environmental literacy to children. Although there are studies that have discussed the role of students, parents, and volunteers in different contexts, the role of volunteers in a non-formal education environment such as Jatmika Reading House is new and important to understand. The findings of this study can considerably contribute to the development of community-based environmental literacy programs, especially in utilizing volunteers as the primary agent of change in the younger generation.

Fitriyah et al. (2023) discuss how students play a role in improving community environmental literacy through education and training for 4 months in the Sempu Banyuwangi area. The impact of the training provided by students is the increase in community awareness of the surrounding environment. The training provided is sorting 3R waste to be recycled into compost. It is proven that by providing direct training, the community can better understand what needs to be done rather than just providing materials. It is also proven that students can play an active role in teaching environmental literacy. Students can act as community companions in carrying out environmental care activities and act as motivators to motivate the community to want to learn (Fitriyah et al., 2023).

Sandlin and Clair (2023) discuss the role of volunteers in adult literacy education programs. The study focuses not only on the importance of volunteers for adult literacy education but also identifies

their role in teaching, controversies that occur, volunteer training models, and the impact of volunteer involvement on program outcomes. Volunteers were found to play an important role in teaching basic skills such as reading, writing, and math. Volunteers' contributions also had a positive impact on learners' academic progress and functional skills improvement.

The next research of Iwaniec and Curdt-Christiansen (2020) discusses the role of parents in China as agents to engage their children in environmental literacy activities to increase their children's awareness of environmental issues and how environmental literacy affects children's attitudes and behavior. Parents in China actively engage with their children on all issues regarding environmental literacy. Beyond environmental learning, Chinese parents tend to emphasize their agentive role in all aspects of their children's education and lives.

Pardosi et al. (2021) discuss the role of student volunteers who serve to improve community literacy in 3T villages. Students, in this case as volunteers, contribute a lot to efforts to improve literacy, which indirectly helps government programs to improve the literacy of Indonesian children. Students provide sustainable products and/or programs. Students try to raise the awareness of people in the 3T (Disadvantaged, Frontier, and Outermost) areas about the importance of using Indonesian because more people use local languages than Indonesian.

Based on the previous studies above, students, parents, and volunteers also play an important role in teaching literacy through adult literacy education programs or community service in an area with poor

literacy skills. However, the role of volunteers as mentors or facilitators in the environmental learning process has yet to be widely studied. This research discussed how volunteers of Jatmika Reading House Bandung play their role in environmental literacy activity and focused on children as the target group. This study aimed to explore the role of volunteers in teaching environmental literacy to children, the challenges they experienced during the activities, as well as the motivation of the volunteers to contribute to volunteering at Jatmika Reading House.

RESEARCH METHODS

This research used a qualitative approach with a case study method. Qualitative research methods highlight the aspect of deep understanding of a problem rather than looking at the problem to be generalized (Rusandi & Rusli, 2021). Case Study is a scientific activity that is carried out intensively, in detail, and thoroughly on a program, event, and activity at the individual, group of people, institution, or organization level to gain in-depth knowledge about the event (Rahardjo, 2017). This study was conducted in May 2024. The subjects in this study were Jatmika Reading House volunteers who actively contributed to the activity of making eco-enzymes with children at SD Alam Al Ghozali. The research subjects were two volunteers who were selected using a purposive sampling technique. The purposive sampling technique is a method of deliberately selecting participants based on certain characteristics, where this approach is non-random and does not require a basic theory or a specific number of participants (Etikan et al., 2016).

Researchers chose the two volunteers because they were able to provide information about their experiences when participating in eco-enzyme-making activities with children at SD Alam Al Ghozali. Both volunteers were in accordance with the required informant criteria, which were (1) an active volunteer at Jatmika Reading House and (2) participating in teaching eco-enzyme making to children at SD Alam Al Ghozali. Based on the above criteria, the selected informants could provide information according to their experience when participating in eco-enzyme-making activities with children at SD Alam Al Ghozali.

The case study method involves a variety of empirical material collection tools to answer the research question to the maximum extent (Rashid et al., 2019). Data collection is essential as it aims to provide a detailed understanding of the experience and decision-making process (Barrett & Twycross, 2018). In qualitative research, data collection is unstructured and flexible (Moser & Korstjens, 2018). Researchers collected research data in May 2024 using interview techniques, indirect observation, documentation, and literature review.

Interviews are the most direct and easiest way to gather detailed information about the phenomenon (Barrett & Twycross, 2018). Interviews are conducted because they “allow interviewees to speak in their voice and express their thoughts and feelings” (Alshenqeeti, 2014). Interviews enabled researchers to obtain in-depth information about the volunteer's experience, the volunteer's role, the volunteer's motivation, the challenges experienced by the volunteer, and the volunteer's views on teaching

environmental literacy. The researchers chose a semi-structured interview for more flexibility and “able to refocus the questions, or prompt for more information, if something interesting or novel emerges” (Baškarada, 2014).

The informants in this study consisted of two volunteers of Jatmika Reading House who contributed to teaching the making of eco-enzymes. The questions asked included: (1) how did the activity take place from start to the end? (2) how did the informants play their role in the activity? (3) what did the informants do to increase children's participation? (4) what were the challenges experienced during the activity? and (5) what motivated the informants to become volunteers?

Indirect observation, in a broad sense, according to Ciesielska et al. (2018), is a method that allows researchers to obtain information about past or present situations that cannot be accessed directly. Researchers conducted indirect observation because the activity of making eco-enzymes with children at SD Alam Al Ghozali took place in October 2023, so the data was collected from written learning materials sent by informants.

Documentation in this study was obtained from informants' documentation during the activity. The literature review included a review and analysis of the literature on the role of volunteerism and environmental literacy to gather relevant information and summarize the results (Sopia et al., 2023). A literature review of previous studies is essential in forming the research framework, developing a research idea, consolidating what is already known about a subject, identifying knowledge gaps, and determining how the research can contribute to further understanding

(Adlini et al., 2022; Winchester & Salji, 2016).

According to Sarosa (2021) "Unlike quantitative data analysis, qualitative data analysis is iterative", which means that the qualitative data analysis process is more flexible. Furthermore, researchers analyzed the research data based on three concurrent flows of activity, which are data reduction, data display, and drawing/verifying conclusions (Miles & Huberman, 1994; Sarosa, 2021). In this study, the data collected were interviews with two informants, indirect observation, and documentation were filtered to retain only information related to the roles, challenges, and motivations of volunteers. Once the data were reduced, it was organized into narrative descriptions. The data were presented to researchers to see existing patterns and connections clearly. Then, the researchers concluded from the data that were analyzed, answering the research questions. These conclusions were then verified by revisiting the data or comparing them with other findings to ensure the validity of the study results.

RESULTS AND DISCUSSION

Jatmika Reading House organizes a variety of informal education activities, one of which is environmental literacy activities. One of the environmental literacy activities carried out tentatively by Jatmika Reading House is eco-enzyme

making. "Eco-enzyme is a versatile complex organic substance liquid produced by simple fermentation of vegetable/fruit waste with the addition of brown sugar or molasses and water in a ratio of 1:3:10" (Wuni & Husaini, 2021). The utilization of eco-enzyme is an effective approach to reducing the volume of household waste, particularly organic waste, which remains a significant component of overall waste production, and its future production is anticipated not only further reduce the volume of waste sent to landfills but also serve as a strategic effort towards achieving zero waste at the household level (Muliarta & Darmawan, 2021; Prasetyo et al., 2021).

The teaching of eco-enzyme making is carried out tentatively at Jatmika Reading House and is usually attended by local mothers. It turns out that the Jatmika Reading House was once invited to teach the making of eco-enzymes to children at SD Alam Al Ghozali, which was held on October 26, 2023. In the eco-enzyme-making activity at SD Alam Al Ghozali the activity was guided by two volunteers who also became informants in this study.

This study analyzed three research questions, which included (1) the role of volunteers in teaching environmental literacy to children, (2) the motivation of volunteers, and (3) the challenges experienced by volunteers.



Figure 1. Volunteers teach eco-enzyme-making to children
Source: Informant's documentation, 2023

In Figure 1, we can see the eco-enzyme-making activity guided by a volunteer from Jatmika Reading House and participated by children from SD Alam Al Ghozali. Here, both volunteers acted as facilitators and encouragers.

"Technically, we introduced what eco-enzymes are to the children. However, because the activity was in the field, we could not use a slideshow, so we just explained what eco-enzymes are and what their benefits are for the environment." (Informant 1, interviewed, May 19, 2024).

Based on the interview responses above, both volunteers acted as facilitators by introducing the concept of eco-enzymes to the children and directing them to smell the finished eco-enzyme. Thus, the volunteers helped the children to get involved and facilitated the children's understanding of eco-enzymes in an interactive and fun way. The volunteers also acted as encouragers by creating a fun atmosphere by doing icebreakers, such as singing and clapping, to make the children feel comfortable and connected with the volunteers before starting the activity.



Figure 2. Eco-enzyme making activity
Source: Informant's documentation, 2023

Next, the volunteers divided the children into two groups, a girl and a boy group, which can be seen in Figure 2.

During the activity, volunteers here acted as mentors and instructors who provided real examples, directions, and assistance.

"We divide the tasks; there are children who wash, take water, wash the fruit and vegetable peels, and sort them because not all fruit and vegetable waste can be used." (Informant 1, interviewed, May 19, 2024).

"First, give them an example. Certainly, they are also new to making eco-enzymes. Not only the children, the teachers are also involved. So, we give examples first of how to cut and measure, how to measure the water. Besides giving directions, we also give examples, but technically, it is done by the children because the goal is that in the future, they can process organic waste themselves." (Informant 1, interviewed, May 19, 2024).

The statement of Informant 1 was consistent with the statement of Informant 2.

"It is all the kids who do it, under my instruction. It is more about directing, practicing together." (Informant 2, interviewed, May 17, 2024).

Based on the informants' statement above, although it was the children who did the physical activities directly, volunteers provided real examples, directions, and assistance to ensure that all children could learn and eventually were able to make eco-enzymes independently. The volunteers provided examples and instructions to the children on what to do and how to do it. The volunteers provided guidance or direction to the children in processing the ingredients, such as cutting the ingredients and measuring the amount of water to put

in the bucket. Thus, although it was the children who performed the physical actions, volunteers had an important role in directing and guiding them through the process.

During the practical process of making eco-enzymes, the volunteers also acted as active learning facilitators; they provided an understanding of the benefits of eco-enzymes to the children.

"They practiced while being told what the benefits of eco-enzyme are, for hygiene, for health." (Informant 2, interviewed, May 17, 2024).

While the children practiced making eco-enzymes, volunteers were involved in providing relevant explanations and information about the importance of eco-enzymes. Thus, volunteers not only guided the children in performing physical actions but also educated them on the purpose and benefits of what they were doing. This created a comprehensive learning experience and ensured that the children were not only engaged in the activity but also understood the benefits and importance of eco-enzymes, such as how it was useful for hygiene and health. The eco-enzyme-making activity itself provides various benefits for early childhood, which are allowing them to learn through practical and tangible methods, increasing environmental awareness from an early age, and developing practical skills and environmental literacy (Herawati et al., 2023). Volunteers, in this case, helped to provide direct examples to strengthen the positive impact of eco-enzyme-making activities on children's development.



Figure 3. Children's participation during the activity
Source: Informant's documentation, 2023

Figure 3 shows the children's participation in making eco-enzymes. Children involve themselves in the process of eco-enzyme making, such as measuring and soaking organic waste. Here, the volunteers acted as motivators and organizers of children's participation during the activity.

"There are many children, Alhamdulillah, most of them participated well. Some of them were quite distracted because they had been camping, so maybe they were sleepy and tired. In terms of effectiveness, we try to distribute the work to the children so that they are involved as effectively as possible." (Informant 1, interviewed, May 19, 2024).

"Yes, there are children who are very active, and there are children who are not. If, for example, the child is quiet, I invite them to try it in turn so that they can try it all." (Informant 2 interviewed, May 17, 2024).

Both volunteers paid attention to how the children's participation and enthusiasm

were different. The volunteers tried to stimulate the interest and participation of children who were less enthusiastic by getting them directly involved in activities. Thus, the role of volunteers was to create an inclusive and supportive environment where all children felt valued and actively involved according to their respective capacities. By directly participating in the eco-enzyme-making process, children could learn through practical experience.

Participation, according to Wahyudiyono (2019), is the mental and emotional involvement of individuals in group situations that encourage them to contribute to group goals and be responsible for their achievement. Volunteer participation in social activities at Jatmika Reading House is included in the concept of social participation. This is in accordance with the general definition of social participation, "a person's participation in the activities of a social group" (Wahyudiyono, 2019). Wahyudiyono (2019) also mentions that "social participation is done voluntarily by joining a group." Thus, the participation of

both volunteers in the activities of Rumah Baca Jatmika was included in social participation because both volunteers participated voluntarily in the activities of Rumah Baca Jatmika.

Volunteers decided to take part in social activities because of motivation. Six things motivate volunteers to participate in an activity, including (1) values such as altruism and concern for others, (2) understanding, (3) social aspects, (4) career development, (5) ego protective (which involves reducing negative emotions), and (6) ego enhancement (which includes personal growth and self-esteem) (Alender, 2016; Mokhzan et al., 2023). The six points above were further elaborated by the researcher as follows: (1) volunteers were often driven by values such as concern and care for the welfare of others. They felt that contributing to social or environmental activities was a way of practicing these values; (2) Volunteer motivation could also stem from a desire for a deeper understanding of the issues related to the volunteer activity. They wanted to increase their understanding of a particular problem and how they could contribute to solving it; (3) Social factors could also be a motivation for volunteers; volunteers might seek opportunities to socialize, interact with the community, or expand their social network through volunteering; (4) some volunteers might see volunteering as an opportunity to develop relevant skills for their career and felt that the volunteering experience could provide professional benefits in the long term; (5) volunteers might sometimes seek an escape from negative feelings or stresses in their lives (ego protective). Contributing to volunteering became an option to escape these feelings and feel better; and (6) conversely, motivation could also arise

from a desire for self-development and self-esteem (ego enhancement). Volunteers might feel that their participation helped strengthen their sense of accomplishment and self-esteem.

From the six things that motivate volunteer participation above, the researchers would try to correlate them with the motivations of the two informants.

“It is nice to be able to share with others. From what I see at the reading house, it is not just reading books; six basic literacies can be developed. So, we hold various workshops. I like it when I can be involved in sharing with others.” (Informant 2, interviewed, May 17, 2024).

Informant 2' motivation to participate as a volunteer of Jatmika Reading House is in accordance with the motivation of volunteers mentioned above, which were (1) values: Informant 2 felt happy when she could be involved in sharing knowledge with others and (2) understanding: Informant 2 became a volunteer because she understood that Jatmika Reading House was not just a place to read books, but also a place to develop basic literacy that could be carried out through activities, such as workshops.

“It is just fun. In Jatmika, I got much experience to be able to socialize with various parties, and do various activities that can be useful for others. However, I think I need it for myself because when we do social work, there are feelings that we get, such as satisfaction, pleasure, the joy of sharing knowledge, sharing happiness. So, I guess I joined Jatmika to create my happiness.” (Informant 1, interviewed, May 19, 2024).

Informant 1' motivation to participate as a volunteer of Jatmika Reading House was in accordance with the motivation of volunteers mentioned above, which were (1) social: Informant 1 motivation to volunteer was because she liked being able to socialize with various parties and felt she had much experience, (2) values: Informant 1 liked doing various activities that were beneficial to others, and (3) ego enhancement: Informant 1 was motivated to volunteer to create happiness for herself. Informant 1 felt satisfaction and pleasure when doing social work.

Furthermore, both informants shared the challenges or obstacles they experienced during the teaching process of making eco-enzymes with children.

"The children tended to be easy to manage, even though they were tired and a bit noisy, but the activities went well. Then, the limited equipment and materials made it impossible to divide them into smaller groups. The waste collected was mostly household waste that could not be used for eco-enzymes, so the materials were not enough. There were no significant challenges other than the unbalanced number of children and facilitators at that time." (Informant 1, interviewed, May 19, 2024).

According to Informant 1, the challenge experienced during the activity was the limited tools and ingredients so that they could not divide the children into smaller groups. Many of the organic waste brought by the children could not be processed into eco-enzymes, such as vegetables and fruits that were rotten, so the material for making eco-enzymes was reduced. In addition, the number of

volunteers, who were only two people, was unbalanced by the number of children, around 50 people, so the children had to take turns quickly processing the eco-enzyme ingredients. This also made the children who were waiting for their turn get bored.

"Most elementary school children are cheeky, so we must be extra conditioned. Some of them were joking, throwing eco-enzyme materials at their friends. It was less conducive in the boys' group because of the lack of equipment. Another obstacle was the lack of facilitators because there were about 50 students, ideally four groups with four volunteers." (Informant 2, interviewed, May 17, 2024).

Informant 2 felt that the challenge experienced during the activity was that she had to condition the children extra during the activity. Then, due to the limited equipment and materials, the boys' group, which Informant 2 handled, needed to be more conducive. Lastly, the number of volunteers was only two, so the two volunteers could only divide a total of 50 children into two groups. According to Informant 2, ideally, 50 children should be divided into four groups.

CONCLUSION

This study concluded that Jatmika Reading House volunteers play an important role in instilling environmental literacy in children through interactive and hands-on practices such as eco-enzyme making. From start to finish, the activity involved volunteers acting as facilitators, mentors, motivators, encouragers, instructors, and organizers, ensuring the children's involvement, and using multiple strategies to increase children's

participation by giving encouragement and fostering a fun learning environment. However, the volunteers also faced several challenges, including limited resources such as insufficient tools and materials, as well as a lack of volunteers, which hindered optimal management of the group. Despite these challenges, the volunteers remain motivated by their satisfaction in sharing knowledge, their commitment to improving literacy in the community, and their enjoyment of social interaction. Their motivation and belief in the value of their contribution to both the children and the environment are key drivers in their continued involvement in the community. This study highlights the important role of volunteers in environmental education at the community level and provides insights into the challenges and motivations that influence volunteers' effectiveness in the role. This study aims to inspire future research that reinforces the role of volunteers in promoting environmental literacy at the local or wider community level. It is also expected that future research could examine how to overcome the challenges, such as volunteer shortages, to create a more sustainable model of community-based environmental education.

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