



Creative and Innovative Learning Through Environmental Empowerment, Gajah Wong Clean River Program

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ABSTRACT

Kali Gajah Wong is a river located in Kampung Giwangan, Yogyakarta, which was previously known as a slum area. Through a community empowerment program initiated by the Mrican Youth community, Kali Gajah Wong has transformed into a tourist village. This article discusses the application of creative and innovative learning in the environmental empowerment of Kampung Kali Gajah Wong. The research employs a literature study method by examining research articles related to the community empowerment of Kali Gajah Wong. The results show that creative and innovative learning has been implemented through various training programs for local residents, such as waste management, processed fish products, and so on. These activities aim to enhance the skills and productivity of the residents while creating distinctive village products as branding for the Kali Gajah Wong tourist village. It can be concluded that creative and innovative learning is highly applicable in real community empowerment through direct observation of its benefits.

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INTRODUCTION

Learning can be done anytime, anywhere, and by anyone, which is a statement often heard in educational circles, especially in non-formal education. Non-formal education focuses on providing lifelong learning opportunities wherever one is, with unlimited learning resources or sources of knowledge. Learners in non-formal education processes are shaped and given skills according to their individual interests as a form of preparation for facing the dynamics of life in the future. Some examples include community assistance carried out through various partners, community empowerment programs to create independent communities, early childhood education, and so on.

Cleanliness Program of Kali Gajah Wong is an example of the application of non-formal education, which includes community empowerment and assistance. Kali Gajah Wong is located in the Giwangan sub-district, Kemantren Umbulharjo, Yogyakarta City. Initially, Kali Gajah Wong was one of the rivers with high levels of pollution and was a slum settlement, which became a problem that needed to be resolved. The village youth, who were members of the youth organization (karang taruna), took the initiative to create a new concept and arrangement for Kali Gajah Wong to overcome the existing environmental issues. (Rubiyatno et al., 2023)

Kali Gajah Wong, which was previously considered a slum environment with a lot of garbage and waste, was addressed with the initial step of cleaning up the existing garbage. The empowerment program continued with various innovative ideas carried out by the youth organization and village residents. The main target of the empowerment process was, of course, the local villagers. As the potential of Kali Gajah Wong grew, the youth organization continued to develop the empowerment process so that the community would have the strength to keep moving forward and developing (legal power).

The creative and innovative learning that is indirectly applied to community empowerment in the Giwangan sub-district provides tourism opportunities from the tourism aspect by utilizing natural resources. (Fatimah & Akliyah, 2022) The innovation and creativity carried out by local residents are interesting to study and become one of the programs that can be adapted and applied in other areas. Community empowerment can open up opportunities for economic improvement, positive activities for local residents, and other positive impacts.

The application of creative and innovative learning can be done through various learning methods, one of which is through outdoor learning utilizing the environment. Learners will be given the opportunity to explore the surrounding environment or a predetermined environment as a way to enhance critical thinking and problem-solving skills when encountering new problems. The creative and innovative learning applied to the residents of the Giwangan sub-district is applicative, with direct involvement in

the field. For learners who use the environment as a source of knowledge, it will form a conceptual understanding within each individual as a provision for solving problems they encounter. The purpose of writing this article is to explain the concept of creative and innovative learning in the context of environmental empowerment through the implementation of the Kali Bersih Gajah Wong program and how creative and innovative learning is applied through the Kali Bersih Gajah Wong program.

LITERATURE REVIEW

a. Constructivism Theory

The application of Constructivism Theory in learning through environmental empowerment aligns with the Constructivism Learning Theory pioneered by Jean Piaget (Eggen & Don Kauchak, 2012). Constructivism elucidates the process of knowledge construction, wherein learners actively build their understanding through observation and experimentation. Knowledge is not a passive entity that learners merely receive; rather, it is the result of schemas, assimilation, and accommodation.

From a constructivist perspective, environmental empowerment provides learners with authentic learning experiences, often referred to as situated cognition. (Eggen & Don Kauchak, 2012) Learners acquire knowledge through direct observation and interaction with the environment. These empirical experiences cultivate their ability to critically analyze environmental issues. Ultimately, these experiences are constructed into autonomous knowledge regarding the importance of environmental conservation.

In the context of learning based on environmental empowerment, teachers who adopt the constructivist approach serve as facilitators. Their role is to facilitate the active construction of knowledge by learners through their interaction with the environment. For instance, in a school greening program, teachers can guide learners to observe plant growth, care methods, and the benefits of plants for the school ecosystem.

Consequently, Constructivism Theory is highly pertinent to the implementation of innovative and creative learning for environmental empowerment. The direct engagement of learners in environmental conservation actions shapes their critical knowledge and awareness of the importance of sustaining the earth's ecosystems.

b. Situated Learning Theory

Situated Learning through Environmental Empowerment as a learning method is congruent with the Situated Learning Theory propounded by Jean Lave and Etienne Wenger. Situated learning refers to learning activities that transpire within authentic contexts, mirroring how knowledge will be utilized in real-life scenarios.

Through environmental empowerment, learners apply knowledge while simultaneously honing their skills in real-world contexts that are germane to their quotidian lives. For instance, through a school greening program, students acquire ecological concepts while engaging in the practical application of planting and nurturing plants. Such situated activities serve to remind learners of the pragmatic benefits of the knowledge they possess.

In situated learning, tutors assume the role of coaches who train learners to resolve real-world problems. For example, in a school waste management program, tutors can impart the skills of sorting organic and inorganic waste through live demonstrations. Subsequently, tutors provide opportunities for learners to practice independently with gradually diminished guidance. This allows learners to refine their understanding and skills through a pertinent real-world context, such as the waste management program in their educational institution (Nurwahyuni et al., 2021; Sari et al., 2022; Ulfah et al., 2020).

Thus, the application of Situated Learning Theory in learning through environmental empowerment can lead to the desired outcomes, namely an augmentation in learners' awareness and concern for nature conservation.

c. Ecology in Learning

Environmental Empowerment with an Ecopedagogy Foundation as a learning method is in line with the concept of ecopedagogy, which incorporates the dimension of ecological awareness into the educational curriculum (Misiaszek, 2015). Ecopedagogy aims to foster learners' awareness of the position and responsibility of humans as part of the Earth's ecosystem.

Through environmental empowerment programs such as tree planting, waste recycling, or the creation of biopore holes, learners are invited to experience the direct benefits of environmental conservation actions for the sustainability of the Earth's ecosystem. Learning is no longer theoretical but based on real and meaningful activities for the surrounding environment. The ecopedagogy approach in learning is expected to be able to change the perspective and behavior of learners towards nature to be wiser and more responsible (Misiaszek, 2015).

One of the implementations of ecopedagogy in learning in Indonesia is the waste bank program, which involves the participation of local community members. Research shows that the waste bank program in a number of schools in the villages of Salam and Gebang has been able to increase environmental awareness and change the behavior of residents in independent waste management. (Sari et al., 2022). This activity, based on active participation, is in line with ecopedagogy, which aims to foster the ethics and responsibility of learners towards environmental sustainability in a relevant local context.

MATERIAL AND METHOD

A literature study is an in-depth review of research articles and reports that aims to summarize the findings of previous literature and theories relevant to the researcher's research interests. In a literature study, the researcher collects data in the form of scientific journals, books, research reports, theses, dissertations, conference proceedings, and other publications relevant to the research topic. In addition, the researcher can also explore the bibliography of the collected articles to obtain additional references. Data analysis in a literature study is generally qualitative in nature. The analysis can begin by mapping the data based on the research focus, followed by an in-depth review of the literature content and categorizing the data into specific themes. The researcher then evaluates the available data to generate a discussion and research conclusions.

RESULT AND DISCUSSION

This research discusses community empowerment carried out at Kali Gajah Wong, located in Mrican village, Giwangan sub-district, Umbulharjo. It is known from various sources that previously, Kali Gajah Wong was a dirty place, a place for irresponsible disposal of garbage and waste, until it was labeled as a slum area. Initiated by local youth organization called Mrican Youth, Kali Gajah Wong has transformed into a place that is now favored as a tourist destination (Nurwahyuni et al., 2021). The programs carried out have developed with a good concept, synergizing with each other to preserve the environment while obtaining other benefits.

The programs compiled by Mrican Youth became the initial concept of change in the Mrican village environment. Some of them are:

- a. It began with the cleaning of Kali Gajah Wong and irrigation channels by the management of Mrican Youth, the management of the Lepen Dam, together with volunteers from local residents who care about and are aware of their environment.
- b. Fish farming was carried out in irrigation channels with the aim of restoring the ecosystem that had been damaged due to pollution.
- c. The environment around Kali Gajah Wong was managed to attract the interest of residents and tourists to visit, especially around the irrigation channels.
- d. An environmental awareness education program was created with the target audience being the villagers, so that the villagers understand the importance of maintaining cleanliness in the surrounding area. This program later developed into one of the advanced empowerment programs (Nurwahyuni et al., 2021).

Having developed into the Kali Gajah Wong tourist village, this place has three destinations that attract tourists, namely:

- a. Dermaga Cinta (Love Pier), offering a tour along the Kali Gajah Wong river with tourist boats that will present views of the nearby Kotagede cultural heritage.
- b. Bendung Lepen, an irrigation channel that is the main attraction for tourists. It offers a tour by witnessing hundreds of freshwater fish inside with an attractive landscape design and complete facilities as a tourist spot.
- c. Kampung Kelengkeng (Longan Village), located in Sanggrahan, often referred to as Sanggrahan Garden, offers tours in longan orchards planted with a total of 2000 seedlings in the community (Rubiyatno et al., 2023).

With the concept above, the role of the community becomes important for the success of the environmental conservation process and the economic improvement of the surrounding residents. Alternating assistance is provided as an effort to maximize the existing potential. In addition to instilling a high sense of caring about the importance of protecting the environment, the surrounding residents are also empowered with trading potential that can achieve better profits than before. The process of implementing assistance in empowerment has begun to be carried out frequently as a form of improvement from existing deficiencies and efforts to improve skills that must continue to be done so that the attraction that has been given previously remains existent.

The process of Kali Gajah Wong transforming to a better state certainly experiences further problems, especially in waste management. Kampung Kelengkeng, which is one of the tourist destinations, produces a significant amount of leaf waste, and there have been no previous efforts to resolve it other than disposing of it in landfills. Furthermore, the goat manure produced by local residents' livestock has not been managed properly and optimally. To maintain the Kali Gajah Wong tourist village in sustainable tourism efforts, a formula is needed to solve these problems.

The management of the Kali Gajah Wong tourist village, in partnership with several resource persons, conducted workshops tailored to the needs of the local community. Several ideas for innovation were applied to maximize the potential of the village. Kampung Kelengkeng, with its leaf waste, was then processed into compost and maggot cultivation media. Livestock manure, which previously had no economic value, was then processed into organic fertilizer that has a selling value with predetermined procedures. The products produced, apart from being marketed products, certainly prioritize the needs of the surrounding community, which can leave factory-made products behind. (Rubiyatno et al., 2023)

In addition to the waste problems in Kampung Kelengkeng and the surrounding livestock, freshwater fish farming requires innovation so that the yields obtained during the fish harvest are not only sold raw or processed into ordinary food such as grilled or fried fish. Instead, there are many processing methods that can be done with the potential for large quantities of freshwater fish during the harvest season. The training on making food products from processed freshwater fish utilizes all parts of the fish. The resulting products are of two types, namely frozen food and dry snacks. Frozen products such as fish nuggets, otak-otak (fish cakes), and fish katsu are made from the fish meat, while the bones are processed in such a way as to become dry snacks like fish sticks, and the fish skin is processed into skin crackers. (Ayuningtyas et al., 2021) This creation stems from the lack of existing freshwater fish management, even though it can be a business opportunity by creating products as a specialty of Bendung Lepen itself. Seeing that freshwater fish, especially tilapia, are easy to cultivate and have a short harvest period, it is very unfortunate if they are not immediately processed and created to their maximum potential. (Haries et al., 2022; Pandia et al., 2022)

The training conducted aims to improve the skills and productivity of the local community. Training is also a learning process that develops a person's potential by increasing knowledge potential through knowledge, skills, and values. (Solihat et al., 2023). With the new innovations created, it can add to the branding of the Kali Gajah Wong tourist village. The community empowerment then becomes interconnected and becomes a healthy community ecosystem, both from the environment, economy, and social aspects of all elements of society.

Creative and innovative learning carried out for the community of Mrican Giwangan Village is creative and innovative learning whose application can directly witness its impact. It will be different when learning related to community empowerment becomes learning material or a method used as a concept formation for learning residents. Creative and innovative learning can be one of the ways used as a problem solver that is relevant to the problems found.

This research has several strengths and weaknesses. The main strength of this study lies in the application of creative and innovative learning that is applicable in the context of real community empowerment. Training programs such as waste processing, processed fish products, and others have been proven to be able to improve the skills and productivity of Kali Gajah Wong residents while creating superior products typical of the village. The benefits of this environment-based empowerment learning can be observed directly.

However, this study also has limitations. First, the scope of this research is limited to one specific location, namely Kali Gajah Wong, so the generalization of findings may be limited. Second, this study has not quantitatively measured the extent to which residents' skills and productivity have

increased after participating in creative and innovative learning programs. Such quantitative data can strengthen evidence of learning effectiveness.

Compared to previous research, this study makes a unique contribution by exploring the application of creative and innovative learning in the specific context of community empowerment in Kali Gajah Wong. Previous research generally focuses on the theoretical concepts of creative-innovative learning (Eggen & Don Kauchak, 2012) or its application in the context of formal education (Misiaszek, 2015) while this research extends its application to community-based non-formal education.

Nevertheless, some of the findings of this study are in line with previous studies. For example, the success of the waste bank program in increasing residents' awareness and environmentally friendly behavior is similar to the positive impact of the waste processing program in Kali Gajah Wong. However, this study has not specifically measured changes in residents' awareness and behavior, unlike the study conducted by Sari on environmental education through the Sejahtera waste bank as a concern for the environment. (Sari et al., 2022)

Overall, considering its strengths and limitations, this study offers valuable insights into the potential of creative and innovative learning as a community empowerment strategy. Although the generalization of its findings may be limited, this case study of Kali Gajah Wong can serve as a reference for similar initiatives in other communities to realize positive change through environment-based empowerment learning.

CONCLUSION AND RECOMMENDATION

Creative and innovative learning has been applied to the Kali Gajah Wong community empowerment program through various training to improve residents' skills and productivity, such as processing waste into compost and maggots, processing fish into food products, and others. These activities aim to create superior products typical of the village while becoming the branding of the Kali Gajah Wong tourist village. It can be concluded that creative and innovative learning is very applicable in real community empowerment through direct observation of its benefits.

For future research, it is suggested to expand the scope of the study to more diverse locations or communities and include quantitative measurements to assess the improvement of residents' skills and productivity after participating in creative and innovative learning programs. Additionally, it is crucial to explore the long-term impact and sustainability of the programs and develop a standardized framework or guidelines for their implementation in community empowerment.

Collaboration with various parties, such as government agencies, NGOs, or educational institutions, can help scale up the programs. Comparative studies should also be conducted to evaluate the

effectiveness of creative and innovative learning approaches compared to other community empowerment strategies. Lastly, disseminating the findings and lessons learned from the Kali Gajah Wong case study through various channels can raise awareness and inspire similar initiatives in other regions.

REFERENCES

- Ayuningtyas, C. E., Rahmadewi, Y. M., Budiantoro, A., & Ridha, M. R. (2021). Pemanfaatan Ikan Nila Sebagai Produk Kuliner Khas Ekowisata Bendhung Lepen Yogyakarta. *Prosiding Seminar Nasional Pengabdian Masyarakat Universitas Ma Chung, 1*, 65–74. <https://doi.org/10.33479/senampengmas.2021.1.1.65-74>
- EGGEN, P., & DON KAUCHAK. (2012). *Strategi dan model pembelajaran : Mengajarkan konten dan keterampilan berpikir* (Ed. 6, cet. 4). Indeks.
- Fatimah, R. S., & Akliyah, L. S. (2022). Identifikasi Potensi Daya Tarik Wisata di Desa Kiangroke Kecamatan Banjaran Kabupaten Bandung. *Bandung Conference Series: Urban & Regional Planning, 2*(1). <https://doi.org/10.29313/bcsurp.v2i1.1819>
- Haries, M. F., Kusumaningrum, I. D., & Setianingrum, P. D. (2022). Partisipasi Masyarakat Melalui Program Pemberdayaan Irigasi Bendhung Lepen dalam Meningkatkan Ekonomi Masyarakat di Mrican Giwangan Umbulharjo Yogyakarta Tahun 2021. *Jurnal Pendidikan, Sosial, Humaniora, Dan Kesehatan, 1*(3), 34–43.
- Misiaszek, G. W. (2015). Ecopedagogy and Citizenship in the Age of Globalisation: connections between environmental and global citizenship education to save the planet. *European Journal of Education, 50*(3), 280–292. <https://doi.org/10.1111/ejed.12138>
- Nurwahyuni, I. L., Cahyani, L. I., & Fitriana, N. (2021). Peran Komunitas Bendhung Lepen Dalam Membangun Karakter Peduli Lingkungan Di Desa Mrican, Kecamatan Umbulharjo, Kota Yogyakarta. *Jurnal Empati, 10*(06), 436–446.
- Pandia, D. A., Retnowati, D., & Hamidah, S. (2022). Pemberdayaan Masyarakat Melalui Program Pelestarian Lingkungan di Kampung Mrican, Kecamatan Umbulharjo, Kota Yogyakarta. *Agri-sociabus : Jurnal of Agricultural Social and Business , 1*(2), 94–101.
- Rubiyatno, Wadyatenti, M. A. D. V., & Listyarini, I. Y. (2023). Pengembangan Produk Berkelanjutan berupa Maggot Kering dan Pupuk Organik di Kampung Wisata Kali Gajah Wong, Giwangan Yogyakarta. *Madaniya, 4*(4), 1733–1746.
- Sari, P. P., Lafiani, E., Sholikhah, S., & Ngazizah, N. (2022). Pendidikan Lingkungan Melalui Program Bank Sampah Sejahtera Sebagai Kepedulian Terhadap Lingkungan. *Jurnal Pendidikan Dan Konseling (JPDK), 4*(1), 35–40.

- Solihat, A. I., Kusumaningrum, I. D., & Setianingrum, P. D. (2023). Peran Karang Taruna Dalam Program Pemberdayaan Masyarakat di Irigasi Bendhung Lepen Mrican, Giwangan, Umbulharjo, Yogyakarta. *Jurnal Mitra Indonesia : Jurnal Pendidikan, Social, Humaniora Dan Kesehatan*, 02(02), 1–11.
- Ulfah, T. T., Kamala, I., & Latifah, S. N. (2020). Environmental preservation: Mrican youth innovation on slummed irrigation channels (Bendung Lepen Gajah Wong). *Journal of Community Service and Empowerment*, 1(3), 134–141. <https://doi.org/10.22219/jcse.v1i3.13466>