



Increasing Digital Literacy Through the Use of Basic Technology for Youth Organizations on Indigenous Plants

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Published online: 22 October 2024

ABSTRACT

The use of technology is increasingly widespread and even dominates every human activity. The importance of digital literacy to deal with the negative impacts of technological advances is the basis for digital literacy in environmental and cultural conservation. This community service activity aims to improve digital literacy knowledge through the use of basic technology in the introduction of potential indigenous plants. Community service activities are carried out by empowering 18 youth organization (Karang Taruna). The method used during the activity is project-based learning based on natural history. The initial activity is to provide a pre-test and education on the introduction and use of plant applications. Furthermore, participants practice identifying and processing the information that has been obtained, so that local plant information is created in the form of a QR Code. Finally, an evaluation is carried out by providing a post-test. Training in the use of basic digital literacy technology for indigenous plants can increase the digital literacy knowledge of Karang Taruna's member from 43.75% to 82.75%. With this increased knowledge, it is hoped that Karang Taruna can utilize basic technology to recognize indigenous plants as a form of environmental conservation and local cultural history.

Keywords: digital literacy, natural history, indigenous plants, Ciaruteun Inscriptions

INTRODUCTION

In the digital era of the 21st century, the use of information and communication technology (ICT) is certainly no longer foreign in everyday life. The digital era has brought many (Firmansyah et al., 2022) significant changes, opportunities, and challenges that have an impact on the way people work, learn, and obtain information to interact with their environment. (Andita et al., 2023). Even the effects of digitalization are broader and have changed almost the entire order of human life (Nurkamilah et al., 2023). The very big effects of digitalization if it is not wise in its use. and lack of literacy understanding can have detrimental impacts (Sitio et al., 2024). In this case, digital literacy is one of the important components that need to be mastered before utilizing basic technology in everyday life. In terms of meaning, digital literacy is an individual's interest, attitude, and ability in using digital technology and other communication tools to access, manage, analyze,

integrate, obtain and evaluate new information (Rahayu et al., 2023). Digital literacy is very easy in terms of access, considering that Indonesia is one of the countries with significant growth in internet and gadget users (Sukmawati & Handayani, 2022). Even by 2024, the number of internet users according to Hootsuite will reach 185.3 million users with 353.3 million of them having smartphones (Rianto, 2024). Therefore, seeing this potential, the application of digital

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literacy can play an important role in conservation efforts such as indigenous plant inventory .

Ciaruteun Ilir village is located in Bogor regency, Cibungbulang district, West Java Province has abundant natural and cultural wealth. This village is famous for its cultural heritage sites, namely the Ciaruteun Inscription and Kebon Kopi, which contains a variety of indigenous plants that have not been accessed and utilized. its existence. Indigenous plants are plants that have existed since ancient times and have been used for generations in traditional medicine. The existence of indigenous plants that can grow naturally and wildlly is a biological wealth that needs to be preserved. (Tambaru, 2017). Based on the survey and literature results, it was found that Ciaruteun Ilir village is an agricultural village with 90% of its people being farmers and laborers (Haris et al., 2019). In addition, in terms of educational background, the majority of the people of Ciaruteun Ilir village only received elementary school education or up to high school / vocational school level, so the problems faced are in the social, environmental, and economic fields. From the problems obtained, a stigma emerged among the community that education is not more important than work. Therefore, the economy is the main problem because the people of Ciaruteun Ilir village are still not aware that there is natural potential that can be utilized around their environment, especially around historical tourism, namely the Kebon Kopi and Ciaruteun Inscriptions (Tapak Kaki Raja).

Ciaruteun Ilir village Community regarding the natural potential in the environment is the cause of the activities of the Ciaruteun Ilir village community being less creative and innovative. After conducting further observations, the existence of the Karang Taruna before the Covid-19 pandemic had been actively holding various activities that encouraged the potential of natural resources and tourism. Unfortunately, the pandemic conditions resulted in several programs being stopped so that the Karang Taruna of Ciaruteun village lost their enthusiasm for developing and utilizing the natural resources around them, especially potential indigenous plants.

As is well known, digital literacy in short is the ability to understand and manage data, so that the data obtained can be presented coherently and easily understood by people around them. Digital literacy also refers to a person's capacity to understand, evaluate, and use information obtained through various digital platforms in a critical and responsible manner (Khoirunnisa & Nugraheni, 2024). Various concepts of utilizing digital technology have been widely implemented (Hadithya, 2024; Haerana & Riskasari, 2022; Haris et al., 2019; Mas'adah et al., 2021; Repi & Nasution, 2024). However, the application of the concept of technology-based digital literacy to the introduction and inventory of indigenous plants is still rarely carried out, especially at local cultural heritage sites. The result of all these activities is to provide new knowledge and experience for the community regarding the utilization and application of digital literacy in everyday life.

Providing education on digital literacy, history and various types of indigenous plants is expected to improve the knowledge and skills of Karang Taruna's member, as well as residents in managing and utilizing natural potential in their environment. Thus, this community service activity is expected to help Karang Taruna of Ciaruteun Ilir to be more active in maintaining and utilizing natural resources in their area, as well as learning to use technology to support environmental sustainability, local cultural history, and community economy.

LITERATURE REVIEW

Youth organization or Karang Taruna is a forum for the development of the younger generation that always grows and develops in accordance with the times, which is based on awareness and social responsibility towards society, especially the younger generation in the village or district area (Suci & Fathoni, 2023). One of the Karang Taruna programs that needs to be realized again is to package tour guide activities that were interrupted during the Covid-19 pandemic to be more contemporary by utilizing technology. The results of community service to school teacher partners

in Cipanas revealed that the use of plant recognition applications made it easier for teachers and students during the learning process to identify plants around them (Setyaningsih, et al., 2024).

The existence of historical sites encourages local wisdom-based history learning, reinforcing that natural history can foster awareness to preserve and explore the natural potential around historical sites (Bandarsyah, et al., 2024). With the introduction of digital application-based plants, it can facilitate the education of potential plants around the inscriptions.

Workshop activities focus on working on real projects that are challenging and productive, and relevant to participants. This is in line with the role of PBL, where participants can play an active role in identifying, analyzing and solving real problems by working collaboratively. They also use the skills and knowledge they have learned to create a product that combines various disciplines (Almulla, 2020).

METHOD

The implementation of the activity is carried out with a mentoring and training system. Mentoring and training are carried out for all members of the Karang Taruna of the Ciaruteun Ilir village, Cibungbulang district, Bogor regency, totaling 18 people. The implementation time of the activity is July - August 2024 which is carried out periodically in 4 meetings. In its implementation, this program uses the project-based method natural history-based learning with the following stages: (1) Education stage using lecture and discussion methods; (2) Tutorial stage, identify various plants using the PictureThis[®] application in groups; (3) Practice stage, participants try to identify plants themselves and install the application on the tab provided. Then after identifying the plants, participants are directed to try to input the information obtained and then print it in the form of sheets of paper and laminate it ; (4) Evaluation stage, participants are given a pre-test before the activity is carried out and a post-test after the activity ends.

RESULTS AND DISCUSSION

Educational Stage

Before carrying out the education stage, the Team obtained permission from the Ciaruteun Ilir village, Cibungbulang district, Bogor regency. Then the Team conducted a location survey to several cultural heritage points of the Ciaruteun Inscription and Kebon Kopi. After obtaining various field information, the Team together with representatives of the Karang Taruna and residents discussed the activities, participants, and location of the implementation of the education stage that would be held. From the results of the discussion, it was found that the education activity was carried out at the Majelis Ta'lim office of Ciaruteun Ilir RT 05. On the day of the implementation of the education stage, 18 people consisting of 13 men and 5 women attended. First, participants were given a pre-test before the implementation of Community Service and a post-test at the end of the activity to determine the success of the activity. Pre-test results shows that most participants have less knowledge regarding basic technological understanding (**Fig. 1**).



Figure 1. Education stage and presentation of material

Practice Stage (Workshop Activity)

At this stage, participants were divided into 5 groups with each group consisting of 3 or 4 people. Each group received 1 android tablet on which the PictureThis© application would be installed to help identify plants. The plants identified were herbal plants that grew around residents' yards, such as *kembang telang*, *anting-anting*, *sirih cina*, *kencana ungu*, and *kitolod*. Each individual in the group took turns identifying the plants, while the facilitator team supervised and observed each group. Participants were very enthusiastic in this practical activity, in addition to trying to identify plants, participants also discussed the use of the PictureThis© application, the benefits of plants, and the material that had been previously presented. After all participants tried to identify the plants, participants were directed to process data through basic technology via a laptop device, then the results were printed and laminated (**Fig. 2**).



Figure 2. Device practice and trial stage

Monitoring and Evaluation Stage

Monitoring and evaluation are carried out after the implementation of the education and practice stages. Monitoring is carried out using WhatsApp group, in addition, the evaluation was carried out by giving pre-tests and post-tests to participants. Based on the results of the post-test, an increase in knowledge of 81.75% was obtained (**Fig. 3**). It can be concluded that community service activities regarding education on the use of basic technology through digital literacy provide benefits in increasing participant knowledge.

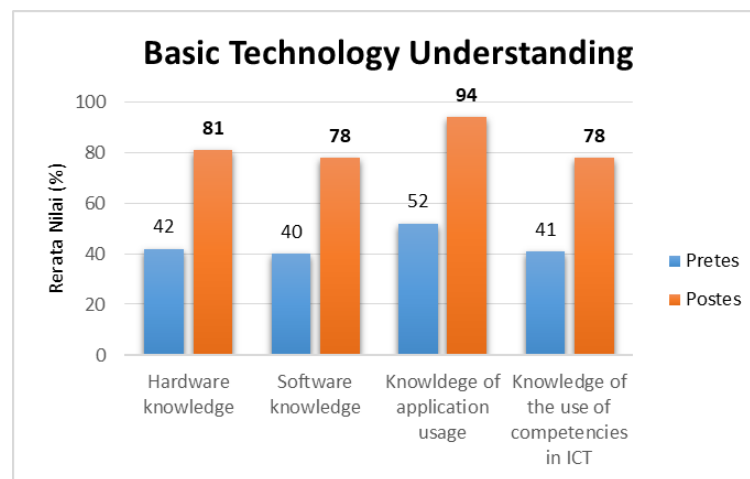


Figure 3. Mean pretest-posttest scores for Basic Technology Understanding

CONCLUSIONS

Literacy knowledge is an important thing that needs to be mastered in the era of rapid technological advancement. By implementing community service activities on the use of basic technology for the Karang Taruna of Ciaruteun Ilir, it can motivate youth and local residents to be more familiar with indigenous plants through digital applications so that they can be useful for environmental conservation, local cultural history, and economic development. Based on the results of the tests conducted, there was an increase in the digital literacy knowledge of Karang Taruna's member which rose to 82.75%. Furthermore, this community service activity needs to be followed up by establishing cooperation with various parties, such as environmental organizations, or local history and culture. Thus, this activity can be sustainable in order to improve the quality of human resources and digital knowledge of the residents of Ciaruteun Ilir village and its surroundings.

Acknowledgments

The Community Service Team would like to thank the Community Service and Empowerment Institute (LPPM) of Muhammadiyah University Prof. DR. HAMKA for their support for this community service activity, so that it was carried out well. Gratitude is also expressed to Kepala Desa, Kepala Dusun 02, Karang Taruna, and residents of Ciaruteun Ilir village who have been enthusiastic and willing to become partners in this community service activity. This activity is funded by DRTPM with the Master Contract Number: 125 / E5 / PG.02.00.PL / PM.BARU / 2024, Batch 1 2024.

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