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ENHANCING DIGITAL LITERACY AMONG STUDENTS: A STRATEGIC APPROACH TO RESPONSIBLE AND SAFE TECHNOLOGY USE

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Abstract
The rapid growth of digital technology requires students to develop strong digital literacy skills to navigate the internet responsibly, securely, and efficiently. However, many students still struggle with distinguishing credible information, safeguarding their personal data, and practicing proper online etiquette. This program was designed to improve the digital literacy of students at SMPN Satap 4 Panarukan through an interactive, hands-on awareness program. The approach involved a pre-test, instructional presentations, discussions, simulations, and a post-test to assess learning outcomes. The pre-test findings revealed that only 31% of the 32 students demonstrated a solid understanding of digital literacy. However, after the program, post-test results indicated a notable improvement, with 81% of students correctly answering questions and exhibiting a deeper comprehension. Moreover, student participation in discussions and simulations increased, reflecting the effectiveness of the chosen methods. Despite these positive outcomes, sustaining digital literacy remains a challenge due to limited technological access and the absence of consistent educator support. To address this, integrating digital literacy into the school curriculum and securing support from various stakeholders is crucial to ensuring students can continuously refine their digital skills.

Keywords: awareness program, cybersecurity, digital literacy

INTRODUCTION

In today's digital era, digital literacy has become an essential skill for the younger generation (Dewi, Utami, and Santosa 2024; R. P. Hutabarat 2023; S. W. Hutabarat, Sinambela, and Hartati 2024; Rusnali 2021), including students at SMPN Satap 4 Panarukan. Digital literacy goes beyond simply accessing information—it involves understanding, evaluating, and using it responsibly (Isabella and Agustian 2023; Vanek 2017). A lack of digital literacy can lead to various issues, such as the spread of misinformation, cyberbullying, social media

addiction, and risks to personal data security (Anthonysamy 2019; Harmoko 2021; Hartika et al. 2023). However, limited access to digital literacy education in schools—whether due to curriculum gaps or resource constraints—often hinders students' understanding of these critical aspects (Soufghalem 2024).

This digital literacy awareness program aims to equip students with foundational knowledge on responsible technology use. Through this program, students are expected to develop the ability to assess information validity, avoid misinformation, practice ethical online communication, and recognize the importance of protecting personal data. Additionally, they are encouraged to use technology productively to maximize the benefits of digital advancements.

The program targets students at SMPN Satap 4 Panarukan, whose levels of digital literacy may vary. Given their one-roof school (Satap) background, they may have limited access to technology compared to students in urban areas. Therefore, the program must be delivered through interactive and accessible methods to ensure effective learning.

While this program has significant potential—such as student enthusiasm for learning about technology and support from the school—several challenges must be addressed. Limited access to digital devices and the internet, students' lack of experience in critically assessing information, and the influence of existing digital culture from their surroundings may hinder effective digital literacy implementation. Thus, a well-structured approach is necessary to ensure that this program is not just an educational activity but a long-term effort in fostering responsible digital habits among students.

PROBLEMS AND SOLUTIONS

SMPN Satap 4 Panarukan, as a partner in this program, faces several challenges related to students' digital literacy. One of the primary issues is the students' limited ability to differentiate between credible and false information, making them more susceptible to misinformation in the digital era. Many students are not accustomed to verifying sources, increasing the risk of spreading inaccurate information. Additionally, a lack of awareness regarding digital ethics and security is another pressing concern. Many students do not fully understand the importance of protecting personal data or practicing responsible online communication, which can lead to security risks such as data breaches or cyberbullying.

Another challenge is the limited access to digital literacy education within the school. The absence of specialized training for both students and teachers has hindered the effective integration of technology into the learning environment. Furthermore, the school's technological resources may be insufficient, preventing the full utilization of digital-based learning. External factors, such as students' unsupervised gadget usage and the influence of their surroundings, also contribute to unhealthy digital habits. Therefore, effective awareness and education programs

are crucial to improving students' digital literacy and fostering more responsible media consumption.

To address these issues, a comprehensive and sustainable approach is needed. One key solution is organizing digital literacy workshops and training sessions to equip students with the skills to evaluate information, avoid misinformation, and maintain ethical and secure online interactions. Interactive methods, such as discussions, simulations, and case studies, can help students better understand and apply these concepts in their daily lives. Strengthening teachers' roles in guiding students in their use of technology is also essential, making it necessary to provide teachers with digital literacy training.

Beyond education, schools can implement policies that promote responsible technology use, such as monitoring internet access and digital device usage within the school environment. Integrating digital literacy into the curriculum is a strategic step to ensure continuous learning. Additionally, collaborating with external organizations, such as educational institutions, digital communities, or government agencies, can help provide additional resources and support. With these efforts, students' digital literacy is expected to improve, enabling them to use technology more wisely, productively, and safely.

METHOD

The implementation of the digital literacy awareness program for SMPN Satap 4 Panarukan students followed a structured and interactive approach. The first stage, preparation, involved coordinating with the school to set the schedule, designing materials suited to students' comprehension levels, and preparing supporting tools such as presentations, educational videos, and case studies. Additionally, evaluation instruments were developed, including pre-tests and post-tests containing questions about digital literacy, such as identifying misinformation, the importance of data privacy, and online communication etiquette. The pre-test was conducted before the session to assess students' initial understanding, while the post-test was administered afterward to measure their progress.

The implementation stage featured an engaging and participatory awareness session, where students were not only introduced to theoretical concepts but also actively involved in discussions, interactive quizzes, and simulations on assessing digital information. During the session, students learned about digital security, responsible social media use, and techniques for recognizing and countering misinformation through real-life case studies. To enhance the program's effectiveness, an experience-based learning approach was used, incorporating examples relevant to students' daily digital activities. Additionally, Q&A sessions and group discussions encouraged students to engage more actively in understanding and applying digital literacy principles.

Finally, the evaluation stage compared the results of the pre-test and post-test while also gathering feedback from participants and teachers. These insights served as valuable input for refining future programs, ensuring that digital literacy programs continue to provide meaningful benefits to students.

RESULTS AND DISCUSSION

The digital literacy awareness program at SMPN Satap 4 Panarukan resulted in a noticeable improvement in students' understanding of digital literacy concepts. A total of 32 students participated in the evaluation, which was conducted through pre-tests and post-tests to measure their knowledge before and after the session. The pre-test results revealed that only 10 students (31%) correctly answered questions related to misinformation, digital ethics, and data security. However, after the interactive session and discussions, post-test results showed a significant improvement, with 26 students (81%) demonstrating the ability to identify misinformation accurately, recognize the importance of protecting personal data, and adopt a more responsible approach to social media use.

Beyond test scores, the students' engagement during discussions and simulations also indicated positive changes. Initially, most students were passive and lacked a critical approach to digital information. However, after receiving the materials and participating in interactive exercises, more than 70% of the students became actively involved by asking questions, sharing personal experiences, and providing real-life examples of the dangers of spreading unverified information. Some students were even able to explain key concepts in their own words, signifying a deeper understanding of the subject. This shift highlights that the awareness program not only increased students' knowledge of digital literacy but also encouraged them to think more critically and act more responsibly in digital spaces.

The evaluation results suggest a significant improvement in students' ability to distinguish credible information, maintain online security, and practice ethical digital behavior. While the pre-test indicated that most students had limited digital literacy knowledge—with only 31% answering correctly—interactive learning methods such as discussions, simulations, and case studies led to an 81% accuracy rate in the post-test.

This progress was also evident in students' active participation throughout the session. Initially hesitant and uncritical about digital content, students became more engaged in discussions, asked insightful questions, and provided real-world examples of misinformation and online security threats. This demonstrates the effectiveness of the interactive and experience-based learning approach used in the program.

Despite these positive outcomes, challenges remain in sustaining digital literacy efforts within the school environment. Limited access to technology and a

lack of ongoing teacher guidance pose barriers to long-term digital literacy development. Therefore, it is essential for schools to continue integrating digital literacy into the curriculum, ensuring that students develop the skills needed to navigate technology responsibly and wisely.

CONCLUSIONS

The digital literacy awareness program at SMPN Satap 4 Panarukan successfully enhanced students' ability to evaluate information, safeguard personal data, and practice ethical online behavior. This improvement was evident in the pre-test and post-test results, which showed a significant increase in correct responses—from 31% before the session to 81% afterward. Additionally, students' active participation in discussions and simulations highlighted the effectiveness of the interactive approach in raising their awareness of digital literacy.

Despite these positive outcomes, challenges remain in sustaining digital literacy education, including limited access to technology and a lack of consistent teacher guidance. Therefore, it is crucial for schools to integrate digital literacy into the curriculum and classroom activities to help students develop responsible and informed technology habits. This program aims to encourage students to think critically in the digital space and utilize technology productively to support their education and daily lives.

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We hope that this program serves as a foundation for ongoing efforts to enhance digital literacy among students and foster responsible and informed digital citizenship.

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