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Implementation of Digital Literacy as a Strategy to Prevent Technological Disparity and Cybercrime in Adolescents: A Case Study at SMKS PGRI Selaawi Garut

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Abstract

The community service team, comprising academics and students, conducted activities to investigate the execution of a digital literacy program as a means to mitigate the technological gap and counter the increasing prevalence of cybercrime among adolescents. The community service at SMKS PGRI Selaawi Garut implemented an educational framework based on four pillars of digital literacy: digital skills, digital ethics, digital security, and digital culture. Data reveals that 99.2% of Indonesian adolescents are online, although their comprehension of cybersecurity is inadequate.

The curriculum effectively enhanced students' understanding of cybercrime dangers and personal data protection measures through engaging presentations, live simulations, and practical applications. The findings indicated significant enthusiasm among participants and an enhancement in their practical comprehension of safe and responsible technology utilization. This program fosters a healthy digital culture and mitigates the risk of technological exploitation among young people.

Keywords: *Digital Literacy, Cybercrime, Digital Divide, Youth, Cybersecurity*

Introduction

The digitalization period of 2025 signifies a substantial shift in social interaction dynamics within Indonesian culture, especially among adolescents. Recent estimates indicate that internet penetration among adolescents has attained 99.2%, establishing the youth as the predominant users within the national digital landscape. Nonetheless, this elevated connectedness does not correspond with a thorough comprehension of security and ethical considerations in the utilization of information technology.

This issue engenders a digital paradox wherein extensive access to technology is not accompanied by sufficient digital literacy preparedness. Adolescents often navigate the internet instinctively, lacking a robust understanding of cybersecurity threats, digital communication ethics, and personal data safeguarding techniques. This syndrome presents a considerable susceptibility to several forms of exploitation and cybercrime.

This community service program indicates that cybercrime is rising at an alarming pace, characterized by increasingly complex and specialized methods. Incidents of online fraud, digital harassment, misinformation dissemination, and digital identity theft have surged dramatically. This issue highlights the necessity of establishing a thorough and lasting digital literacy initiative.

Numerous prior studies have elucidated the intricacies of digital literacy and cybersecurity challenges among adolescents. The initial pertinent study, entitled "Cybersecurity Digital Literacy Among Teenagers Facing Social Engineering," was released by Wacana Publik. This report notably highlights adolescents (Generation Z) as the demographic with the highest internet penetration and the most significant susceptibility to cybercrime. The results demonstrate that adolescents are particularly susceptible to social engineering tactics owing to their insufficient comprehension of cybercrime methodologies. This study is confined to descriptive analysis and fails to offer tangible, actionable answers for formal educational settings.

The second report, published by ResearchGate in 2023, entitled "Digital Literacy to Protect Society from Cybercrime," provides an expansive view on the significance of digital literacy as a safeguard for communities. The primary findings indicate that organized digital literacy initiatives can substantially decrease the incidence of cybercrime victimization by as much as 65%. This study also establishes that participatory and interactive instructional methodologies are superior to traditional lecture techniques. This study has limitations related to its demographic target criteria and does not investigate program implementation in vocational high school settings.

The third study, published in the Journal Mengabdi dari Hati (2024), addresses "Digital Literacy: Cybersecurity in Education to Enhance Data Protection," significantly contributing to the realm of educational institutions. The results indicate that 78% of high school students lack a sufficient understanding of the importance of personal data protection in digital interactions. This study effectively establishes a favorable association between digital literacy levels and pupils' capacity to identify cybersecurity hazards. The primary weakness of this study is its geographically confined reach and its neglect to examine contextual elements that affect the efficacy of digital literacy programs.

Previous literature has found numerous notable gaps in activity. The majority of previous activities are descriptive-analytical and lack the development of a practical, implementable model for use in educational settings. Secondly, prior research failed to incorporate certain local and demographic factors in the formulation of digital literacy initiatives. Third, no activities have thoroughly examined the efficacy of digital literacy programs within vocational high schools attended by students with practical and applicative orientations.

This activity's scientific significance is in the creation of a digital literacy model that incorporates distinct demographic and regional

attributes, alongside the application of an action research technique for ongoing assessment of the program's efficacy. The primary innovation of this initiative is the development of a digital literacy framework adaptable to diverse situations within vocational high schools in Indonesia.

This research was performed at SMKS PGRI Selaawi Garut, an educational establishment that exemplifies the situations of schools in regions with varied geographic and demographic attributes. Despite the school's electronic infrastructure being reasonably sufficient, first observations revealed a deficiency in pupils' comprehension and implementation of digital security principles.

This activity aims to develop and implement a comprehensive digital literacy program to enhance cybersecurity awareness, bridge the technological gap, and foster a responsible digital culture among adolescents.

Method

The community service team from STMIK Mardira Indonesia, comprising academics and students, utilized a qualitative methodology in the implementation of this initiative, employing a community service research framework. The employed methodology encompasses multiple strategic phases aimed at enhancing the transmission of knowledge and digital literacy skills to the participants.

The study population comprises students from SMKS PGRI Selaawi Garut, aged 15 to 18 years, who are regular users of social media and digital platforms. The sample was selected using purposive sampling, focusing on students in grades X to XII with consistent access to the internet and digital devices.

Data collection was executed via participatory observation, activity documentation, and participant assessments. The tools employed in the activities comprised pre- and post-activity questionnaires, organized observation guides, and rubrics for evaluating active participation.

The data analysis method utilized a qualitative descriptive methodology and source triangulation to validate the findings. The event

occurred on June 17, 2025, spanning three rigorous hours, comprising a presentation segment, interactive discussions, and practical exercises.

The curriculum content was created around four foundational pillars of digital literacy: (1) digital skills, (2) digital ethics, (3) digital safety, and (4) digital culture. Each pillar was constructed using a pedagogical strategy adapted to the learning traits of adolescents.

The delivery strategy incorporated many pedagogical strategies, such as interactive graphic presentations, real-case simulations, live demonstrations, and instructional games. This strategy aimed to enhance participant involvement and facilitate the efficient dissemination of knowledge.

Results and Discussion

The execution of the community service initiative centered on digital literacy at SMKS PGRI Selaawi Garut yielded positive and substantial outcomes in improving students' comprehension of cybersecurity and responsible technology utilization. Analysis of participant participation and responses revealed numerous critical findings that inform the development of more effective digital literacy methods.

The primary findings reveal that students had significant enthusiasm for the digital literacy content, with nearly 100% engagement during the sessions. Participants demonstrated a profound interest in subjects related to digital security, particularly regarding the utilization of social media and the safeguarding of personal data. This suggests a significant demand for digital education among teenagers.

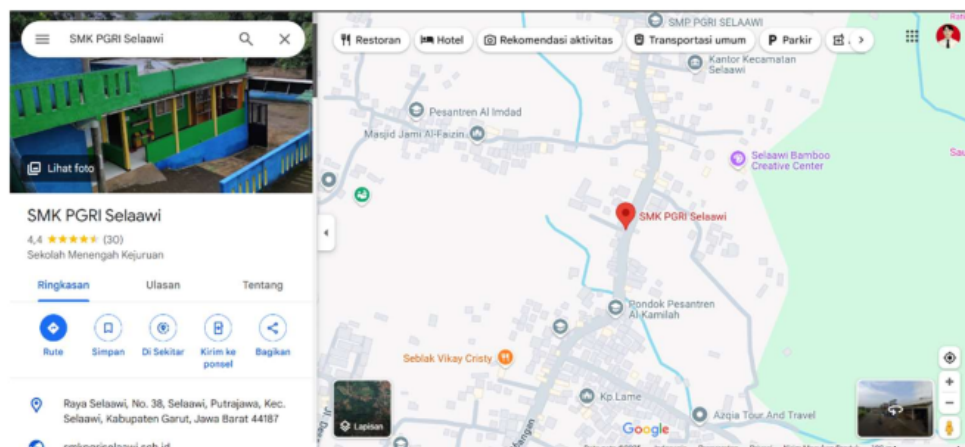


Figure 1. Location of Community Service Activities

The assessment of participants' preliminary comprehension indicated a significant deficiency in knowledge concerning cybersecurity concerns. The majority of students possessed a fundamental comprehension of digital devices and social media applications; nevertheless, their awareness of self-protection techniques against digital risks was inadequate. This scenario underscores the necessity of a thorough and systematic digital literacy program.

The execution of the four pillars of digital literacy exhibited differing levels of efficacy. The digital skills component was relatively straightforward for participants to comprehend, as they were already acquainted with routine technology usage. The foundations of digital ethics and digital safety necessitated more comprehensive explanations and specific case studies to enhance understanding.

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Figure 2. Implementation of Community Service Activities at SMKS PGRI Selaawi Garut

The practical lessons, especially those focused on configuring privacy settings for social media accounts and enabling two-factor authentication, yielded the most substantial educational benefit. Participants exhibited proficient skills in adhering to technical directives and implementing their information directly on their devices. This experiential learning method has shown efficacy in cultivating practical skills applicable to daily life.

The analysis of interactions and discussions during the exercise indicated that participants encountered varied experiences with digital

risks. Several kids reported experiencing online fraud, receiving dubious communications, or being victims of cyberbullying. These experiences served as significant conversation points and enhanced the collective learning process.

Another noteworthy discovery was the participants' recognition of the necessity to verify material before disseminating it on social media. Students demonstrated proficiency in recognizing the traits of misleading material and comprehending the ramifications of disseminating falsehoods through simulations of hoaxes and disinformation.

An evaluation conducted after the exercise revealed a notable enhancement in awareness regarding digital security threats. Participants demonstrated an increased understanding of the importance of safeguarding personal information confidentiality, using robust passwords, and exercising caution when interacting with unfamiliar individuals on digital platforms.

This activity also revealed numerous problems in executing the digital literacy curriculum. Time constraints hindered the provision of thorough explanations for each subject. The participants' diverse technological comprehension necessitated a more tailored approach to address differing learning requirements.

The outcomes of this exercise align with prior findings that underscore the significance of a comprehensive approach to digital literacy instruction. Programs that integrate technical, ethical, and cultural dimensions demonstrate greater efficacy in fostering a holistic and sustainable understanding.

Conclusion

The execution of the digital literacy program at SMKS PGRI Selaawi Garut effectively accomplished its principal objectives of improving students' awareness and competencies in cybersecurity and responsible technology utilization. This action demonstrated that a thorough and engaging instructional strategy can substantially enhance the development of a healthy digital culture among adolescents.

The results demonstrate that adolescents display significant eagerness for acquiring digital literacy; yet, they necessitate systematic and continuous support to cultivate practical cybersecurity competencies. The application of the four pillars of digital literacy has shown efficacy as a comprehensive framework for structuring educational resources and guaranteeing thorough topic coverage.

The success of this program establishes a robust basis for the advancement of more extensive and systematic digital literacy programs. Cooperative synergy among educational institutions, families, and communities is vital to establishing a digital literacy ecosystem that fosters the development of intelligent, secure, and responsible adolescents in the digital era.

This program advocates for the incorporation of digital literacy into both official and informal curricula, the development of learning resources that evolve with technological advancements, and the establishment of a sustainable digital literacy community. These measures are essential to equip Indonesia's youth to confront difficulties and capitalize on possibilities in the perpetually advancing digital transformation era.

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