

## Digital Ethics for Teens: Building Social Awareness in Using the Internet and AI

Sopi Sapriadi<sup>1</sup>, Aldo Eko Syaputra<sup>2</sup>, Kiki Hariani Manurung<sup>3</sup>, Nova Hayati<sup>4</sup>, Wulandari<sup>5</sup>  
<sup>1,2,3,4,5</sup> Sistem Informasi, Universitas Adzkia, Padang, Indonesia  
correspondence\_author: [sopisapriadi@adzkia.ac.id](mailto:sopisapriadi@adzkia.ac.id)

### Abstract

This community service program successfully enhanced critical digital literacy and ethical awareness among teenagers at SMA Negeri 1 Lembah Gumanti through the "Digital Ethics for Teens" initiative, and Artificial Intelligence (AI) among teenagers at SMA Negeri 1 Lembah Gumanti through an educational initiative titled "Digital Ethics for Teens." The activity began with a situational analysis that revealed a high level of gadget and social media use among students, which was not matched by an adequate understanding of digital ethics, algorithmic risks, and personal data security. The intervention was implemented through a 50-minute interactive session that combined participatory lectures, simulations of violations of the Electronic Information and Transactions Law, and discussions on the social impact of AI, cyberbullying, plagiarism, hoaxes, and filter bubble phenomena. Evaluation using a before-after assessment approach indicated a significant improvement in students' ability to identify ethical and unethical behavior, manage privacy, and understand the legal and social consequences of their digital activities. Key outputs included educational modules, Digital Ethics Youth Community, and SINTA journal draft, yielding school impacts like heightened legal awareness, reduced vulnerabilities, and sustainable peer monitoring, with sustainability ensured via Digital Citizenship micro-curriculum for ICT integration, teacher training, and open modules for replication at similar schools.

Keywords: digital literacy, digital ethics, teenagers, Artificial Intelligence, digital citizenship

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### 1. Introduction

The rapid expansion of digital technologies and Artificial Intelligence (AI) has fundamentally transformed how adolescents interact, access information, and construct their social identities. In Indonesia, smartphone penetration and social media usage among teenagers continue to rise, yet this growth is not always accompanied by an equivalent increase in critical digital literacy and ethical awareness [1]. In many school contexts, including peripheral regions, students are proficient in operating digital devices but tend to perceive online spaces as value-free environments, neglecting the moral, social, and legal implications of their activities [2]. This condition contributes to the persistence of cyberbullying, academic plagiarism, misinformation, and risky data-sharing practices in everyday digital life [3].

Previous studies on digital literacy and digital citizenship emphasize that access to technology alone does not guarantee responsible behavior; instead, targeted education is required to build cognitive, ethical, and legal competencies in digital environments. Other works underscore the psychological risks associated with intensive social media use, such as anxiety and Fear of Missing Out (FoMO), as well as the growing

threat of data profiling and privacy violations driven by AI based systems [4]. Meanwhile, community engagement and school-based intervention models demonstrate that structured training and peer-to-peer learning approaches can effectively increase students' awareness of data protection, ethical communication, and legal consequences of online misconduct [5][6].

Despite this growing body of literature, there remains a practical gap at the school level, particularly in integrating digital ethics and AI awareness into the formal and informal learning ecosystem. Many secondary schools still focus their ICT curricula on technical skills, with limited attention to ethical, psychosocial, and legal dimensions of AI mediated interactions [7]. Teachers often report a lack of specific training in digital ethics education, which constrains their capacity to guide students in navigating complex online risks [8]. In the case of SMA Negeri 1 Lembah Gumanti, situational analysis showed that 85–90 percent of students own personal devices and 95 percent are active on platforms such as TikTok, Instagram, and YouTube, yet they possess limited understanding of algorithmic risks, digital footprints, and the legal framework governing online behavior [9]. This mismatch between high access and low ethical literacy competencies illustrates a critical gap that necessitates

systematic intervention through community service and school collaboration [10].

The present community service program, “Digital Ethics for Teens,” is designed to address this gap by developing and implementing an educational intervention that strengthens critical digital literacy and ethical awareness related to internet and AI use among high school students. The program combines interactive lectures, real-case simulations of violations of the Electronic Information and Transactions Law, and discussions on the social impact of AI, cyberbullying, hoaxes, and data privacy [11]. Specifically, this study aims to: (1) analyze the initial level of students’ understanding of digital ethics and AI-related risks; (2) implement a structured training module on digital ethics and AI awareness using participatory methods; and (3) evaluate changes in students’ cognitive and affective competencies through a before after assessment approach [12][13].

In addition to these objectives, the program seeks to contribute to the broader discourse on digital citizenship education by developing a micro-curriculum that can be integrated into ICT subjects and by establishing a student-led community as peer educators in digital ethics [14]. The main contributions of this work are threefold. First, it provides empirical evidence on the effectiveness of a short, intensive intervention in improving teenagers’ ability to identify ethical and unethical digital behaviors, manage privacy, and recognize algorithmic risks [15][16]. Second, it offers a practical model of school university collaboration for embedding digital ethics and AI awareness into the school ecosystem through modules, interactive materials, and community-based initiatives. Third, it proposes a sustainability framework through micro-curriculum development and open modules that can be replicated in other schools with similar socio digital characteristics [17][18][19].

## 2. Methods

### 2.1. Intervention Design and Participants

The methodology proposed for this community service activity employs an educative intervention approach evaluated through a before-after assessment framework. This model is designed to measure participants’ cognitive and affective transformation before and after exposure to digital ethics and artificial intelligence (AI) materials. The primary innovation of this method lies in integrating participatory simulations of real-world violations of the Electronic Information and Transactions Law (UU ITE) and AI algorithmic risk mitigation, rather than relying on one-way lectures.

The research subjects or dataset for this activity consist of 40 high school students from SMA Negeri 1 Lembah Gumanti, Solok Regency, selected through intensive

sampling. Participant selection was based on a situational analysis revealing that 95% of students actively use social media but exhibit low data security literacy. Collected data includes pre-test results to measure baseline knowledge and post-test results to evaluate the effectiveness of the delivered materials.

### 2.2. Implementation Stages

The model implementation follows a systematic process through three integrated main stages. The first stage involves introduction and socialization of objectives to build trust with partners and map students’ initial perceptions of digital privacy. The second stage delivers core materials over 50 minutes, covering education on the psychological impacts of AI algorithms, data security using Two-Factor Authentication, and analysis of information bias in personalized content.

The third stage focuses on final evaluation and establishing sustainability mechanisms. This phase includes critical reflection and structured focus group discussions to dissect case studies on digital addiction and cyberbullying. This systematic process can be illustrated through a research workflow or flowchart, progressing from problem observation, educative material preparation, to analysis of students’ digital behavior changes.

In Indonesia’s digital era, high smartphone penetration among teenagers—95% active on TikTok, Instagram, and YouTube—contrasts sharply with low ethical awareness, particularly at SMA Negeri 1 Lembah Gumanti where 85-90% own devices yet view online spaces as value-free, fueling cyberbullying, plagiarism, hoaxes, and risky data practices. School ICT curricula emphasize technical skills over ethical/legal dimensions like UU ITE violations and AI risks (filter bubbles, digital footprints), while teachers lack specialized training to guide students.

This practical gap demands innovative community service intervention, as conventional access alone fails to build competencies. The “Digital Ethics for Teens” PkM introduces three novel approaches at SMA Negeri 1 Lembah Gumanti through an 8-month program (June-December 2025):

- a. AI Awareness + UU ITE Simulation Integration: Unlike typical digital literacy programs, this combines interactive PowerPoint/videos explaining AI algorithms’ social impacts with realistic UU ITE violation simulations (cyberbullying cases, privacy loss scenarios), using recommendation algorithm-generated filter bubble demonstrations.
- b. Shock Therapy Participatory Learning: Employs “shock therapy” through real-world digital reality simulations alongside standardized teen-contextualized modules/handouts on Digital Citizenship, creating immediate awareness of

legal consequences absent in conventional lectures.

- c. Peer Educator Community Formation: Establishes a student-led Digital Ethics Youth Community trained as peer educators, ensuring sustainability beyond the intervention period through Two-Factor Authentication guides and privacy setting workshops [e].

Before-after assessments via pre/post questionnaires measure cognitive transformation across these novel elements [d]. Outputs include SINTA journal draft, integrated AI ethics modules, peer educator community, and ICT micro-curriculum. This first-of-its-kind combination offers empirical evidence, replicable school-university model, and sustainable framework for underserved schools.

All materials were prepared with planned budget allocation to ensure outcomes such as enhanced critical digital literacy and the formation of a digitally ethics-aware teenage community.

### 3. Results and Discussions

#### 3.1. Initial Conditions Analysis and Digital Literacy Gap

Based on observation and situational analysis at SMA Negeri 1 Lembah Gumanti, it was found that technology penetration among students is very high, with 85-90% owning personal devices and 95% actively using social media platforms such as TikTok, Instagram, and YouTube. However, this high accessibility of infrastructure is not accompanied by adequate cognitive skills or digital literacy. Before the intervention, students tended to view cyberspace as a value-free zone, which triggered high rates of online behavioral deviations such as cyberbullying, academic plagiarism, and hoax dissemination. These findings confirm that physical access to technology does not guarantee digital ethics competence among teenagers.

Another key finding from the initial stage was students' lack of awareness regarding the workings of Artificial Intelligence (AI) algorithms. Most students were unaware that their personal data such as location and habits are collected for data mining and profiling by AI systems without explicit consent. This ignorance poses significant risks, potentially trapping students in filter bubble phenomena where they are only exposed to information reinforcing their own cognitive biases, thereby diminishing critical thinking abilities.

#### 3.2. Intervention Effectiveness and Students' Cognitive Transformation

Program effectiveness was measured using a before-after assessment method to chronologically evaluate changes in students' understanding. Following the implementation of interactive education on AI ethics

and digital security, significant improvements were recorded in students' ability to identify information validity and manage data privacy. Students who previously did not understand privacy risks began demonstrating practical awareness, such as recognizing ethical and unethical actions and the importance of security features like Two-Factor Authentication.

This successful enhancement of understanding directly addresses the priority issue of low social awareness in cyberspace. Evaluation results show that students became capable of recognizing information bias on social media and understanding the legal consequences of their actions, such as hate speech. This cognitive transformation serves as evidence that structured educative interventions can shift teenagers' perceptions from passive users to more critical and responsible digital citizens.

#### 3.3. Significance Interpretation and Psychosocial Dynamics

The significance of these findings indicates that conventional one-way educational approaches are less effective for Generation Z. This program demonstrates that participatory learning and real-case simulations provide constructive shock therapy, making students realize that cyberspace is a real legal domain. Additionally, forming the "Digital Ethics-Aware Teens" community or Digital Ambassadors at partner schools is highly significant, aligning with peer-to-peer learning theory where teenagers more readily internalize values when delivered by peers.

Some of the material delivered to SMA Negeri 1 Lembah Gumanti is shown in Figure 1 below:



Figure 1. Direct delivery of materials

Broadly speaking, the results of this community service imply that digital literacy challenges are not merely technical issues but also touch on digital mental health aspects. Intensive interaction with AI algorithms without adequate literacy correlates with social anxiety disorders and Fear of Missing Out (FoMO). Therefore, integrating digital ethics materials into the micro-

curriculum of Digital Citizenship becomes a vital sustainability strategy for systematically instilling a culture of law in school environments. This institutionalization step represents a long-term solution to bridge the gap between the rapid pace of technological development and formal curriculum adaptation in schools.

**4. Conclusions**

The "Digital Ethics for Teens" community service program at SMA Negeri 1 Lembah Gumanti successfully addressed the gap between high technology access (85-90% students own personal devices, 95% active on TikTok/Instagram/YouTube) and low digital ethics awareness through an 8-month intervention (June-December 2025). Key activities included situational analysis, 50-minute interactive sessions featuring UU ITE simulations, learning modules, and before-after evaluations demonstrating significant student improvements in identifying ethical/unethical behaviors, managing privacy via Two-Factor Authentication, and understanding AI algorithm risks.

The school gained tangible outputs including educational modules, interactive presentation materials, a Digital Ethics Youth Community serving as peer ambassadors, and digital security guides directly applied by students. Measurable impacts encompass heightened legal awareness (UU ITE), reduced vulnerability to cyberbullying/hoaxes, and strengthened social capital through peer monitoring—creating a safer digital school ecosystem.

Sustainability is ensured through Digital Citizenship micro-curriculum integration into ICT subjects, teacher training as facilitators, and open module development for similar schools (SMKN 1 Gunung Talang). Long-term Year-3 monitoring will engage parents and cross-institutional collaboration, with SINTA journal draft dissemination enabling program replication in other peripheral regions.

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**Author Contributions Statement**

Contributor Role Taxonomy (CRediT) to recognize individual author contributions, the contributions made can be seen in the following table.

Name of Author	C	M	So	Va	Fo	I	R	D	W
Sopi Sapriadi	✓	✓	✓	✓	✓	✓			
Aldo Eko Syaputra									✓
Kiki Hariani Manurung				✓	✓	✓			
Nova Hayati		✓							✓
Wulandari	✓	✓	✓	✓	✓				






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**Biographies of Authors**

	<p><b>Sopi Sapriadi</b>    He is a full-time lecturer in the Information Systems Study Program at Adzkie University. He earned his Bachelor's and Master's degrees in Information Technology from Putra Indonesia University "YPTK", Padang. His research interests include Data Science Processing. He can be contacted at <a href="mailto:sopisapriadi@adzkie.ac.id">sopisapriadi@adzkie.ac.id</a></p>
	<p><b>Aldo Eko Syaputra</b>   He is a full-time lecturer in the Information Systems Study Program at Adzkie University. He earned his Bachelor's and Master's degrees in Information Technology from Putra Indonesia University "YPTK", Padang. His research interests</p>

	<p>include Data Science Processing. He can be contacted at <a href="mailto:aldo@adzkie.ac.id">aldo@adzkie.ac.id</a></p>
	<p><b>Kiki Hariani Manurung</b>   She is a full-time lecturer in the Information Systems Study Program at Adzkie University. He earned his Bachelor's and Master's degrees in Information Technology from Putra Indonesia University "YPTK", Padang. His research interests include Data Science Processing. He can be contacted at <a href="mailto:kikiharianimanurung@adzkie.ac.id">kikiharianimanurung@adzkie.ac.id</a></p>
	<p><b>Nova Hayati</b>   She is a full-time lecturer in the Information Systems Study Program at Adzkie University. He earned his Bachelor's and Master's degrees in Information Technology from Putra Indonesia University "YPTK", Padang. His research interests include Data Science Processing. He can be contacted at <a href="mailto:novahyt@adzkie.ac.id">novahyt@adzkie.ac.id</a></p>
	<p><b>Wulandari</b> is a full-time student in the Information Systems Study Program at Adzkie University. Her research interests include web-based programming. She can be reached by email at <a href="mailto:wulan000dari27@gmail.com">wulan000dari27@gmail.com</a></p>