

IMPROVING STUDENTS' AWARENESS OF PERSONAL DATA PROTECTION AT SMKS METTA MAITREYA PEKANBARU

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Abstract: This community service activity aims to enhance students' awareness of personal data protection at SMKS Metta Maitreya Pekanbaru amid the intensive use of digital technology and social media. Limited awareness regarding personal data risks, privacy management, and digital security practices motivated the implementation of this program. The methods applied include interactive counseling, practical training, and discussions designed to provide both conceptual understanding and hands-on experience. The materials cover the definition and types of personal data, data breach risks, personal data protection regulations, social media privacy settings, strong password creation, and the introduction of data breach checking platforms such as "Have I Been Pwned" and "Periksa Data". The activity involved tenth-grade students from the Computer and Network Engineering program. Based on the pre-test and post-test assessment results, the activity demonstrated a significant 60% increase in students' awareness of the importance of safeguarding personal data security and privacy in everyday digital activities. Through an educational and practical approach, this program is expected to foster safe, responsible, and ethical digital behavior within the school environment.

Keywords: personal data, digital literacy, data security, community service

1. Introduction

The use of technology has now become widespread in human life. In Indonesia, the level of digital technology adoption has increased significantly over the past decade, including among students and adolescents (Sevila et al., 2025). Vocational High School (*SMK*) students are among the groups that actively use digital devices and social media to communicate and support learning activities (Harefa et al., 2025). On the one hand, the intensive use of digital technology expands access to information and 21st-century skills. On the other hand, it also presents challenges related to the security and privacy of personal data (Dwi Oktareza et al., 2024).

Several studies indicate that the level of digital literacy among vocational high school students in Indonesia remains varied, particularly in the aspect of digital safety, namely the ability to protect personal data and maintain cybersecurity (Maisaroh et al., 2025). This condition implies the need to strengthen students' awareness of account privacy settings, the use of strong passwords, and caution in sharing personal information on social media (Putri Nugroho et al., 2024). Several studies also highlight that students do not fully understand the long-term impacts of data breaches, such as identity theft, misuse of personal information, and cybercrime (Bate & Prasetyo, 2025; Hakim et al., 2025).

SMKS Metta Maitreya Pekanbaru is a vocational school located on Jalan Tuanku Tambusai, Pekanbaru City, Riau Province. This school offers various areas of expertise that support the development of technological and business skills, while also emphasizing character building and digital ethics in the learning process. As a vocational education institution, SMKS Metta Maitreya encourages the use of information technology in both academic and

non-academic activities. Along with the increasing use of social media and digital applications among students, educational assistance is needed to strengthen awareness of digital security and personal data protection.

Previous studies have shown that practical education based on simulations and hands-on exercises is effective in improving students' digital literacy (Anwar et al., 2025; Devega et al., 2026; Latifah et al., 2025; Serianti et al., 2024). From a policy perspective, the Indonesian government has enacted Law Number 27 of 2022 concerning Personal Data Protection as a legal basis for protecting citizens' privacy (Bintarawati, 2024; Rahayu Lestari et al., 2026). However, implementation at the individual level, particularly among students, still requires reinforcement through continuous digital literacy education. Low digital safety literacy is significantly correlated with increased vulnerability to cybercrime among adolescents (Pratiwi & Miarsa, 2025). Data from the study by Syahfiar Muhammad & Mahpudin (2025) show that students with low levels of digital literacy have a higher probability of experiencing online fraud compared with students who have adequate literacy levels. Therefore, practice-based educational interventions from school age are necessary to reduce these risks in a measurable manner.

A practice-based training approach is considered effective in developing safe habits in the use of digital technology (Novantara & Fauzi Suwandi, 2025). Community service activities that combine material delivery and simple training on personal data protection are expected to increase students' awareness in recognizing potential cyber threats and applying appropriate preventive measures. Through this activity, students are expected to understand the types of personal data, the risks of data leakage, and simple strategies for maintaining account security and protecting personal information.

In addition to providing direct benefits to participants, personal data security education activities in the school environment also have the potential to develop a sustainable digital security culture (Mulianingsih et al., 2025; Putri et al., 2024). Increased student awareness of the importance of personal data protection is expected to encourage more careful and responsible digital behavior. In the long term, strengthening digital literacy among vocational high school students serves as an important foundation for preparing them to face the workforce and an increasingly technology-connected digital society.

2. Method

This community service activity used an educational and applicative approach designed to increase awareness of personal data protection among Vocational High School (*SMK*) students. The implementation method consisted of three main stages, namely preparation, implementation, and evaluation. Systematically, the implementation method is presented in Figure 1.

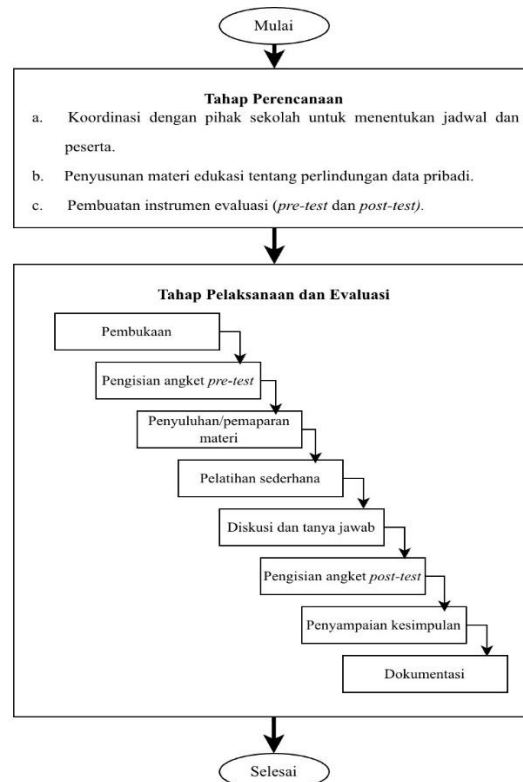


Figure 1. Activity Implementation Method

The preparation stage was carried out through coordination with the partner school to determine the schedule, participants, and technical aspects of the activity implementation. At this stage, educational materials were also prepared in accordance with the characteristics of vocational high school students. The materials covered basic concepts of personal data, risks of data leakage, regulations on personal data protection, social media privacy settings, and digital account security practices.

The implementation stage was then conducted through interactive material delivery, practical training, and discussion. The material delivery session was used to present basic concepts and information related to personal data protection, while the practical training focused on direct application, such as configuring social media account privacy settings and using strong passwords. The discussion session provided space for participants to share their experiences and deepen their understanding of personal data protection issues relevant to their daily digital activities.

Finally, the evaluation stage was conducted to measure the level of achievement of the community service activity. The measurement was carried out descriptively by comparing conditions before and after the activity based on indicators of personal data protection awareness. In this regard, pre-test questionnaires, distributed at the beginning of the activity, and post-test questionnaires, distributed at the end of the activity, were used. The questionnaires contained several statement indicators, including awareness of the importance of protecting personal data, caution in sharing information, and readiness to apply data security practices in digital activities.

There were 10 statements with "Yes" and "No" response options. For each statement, the total number of "Yes" responses was calculated and divided by the number of students to obtain the percentage of students' understanding of that statement. This process was

applied to each statement, resulting in the percentage of students' understanding for all 10 statements. The results of the pre-test questionnaire were then compared with the results of the post-test questionnaire to identify any decrease or increase in the percentage of understanding. The increase in participants' awareness and understanding of safer and more responsible use of digital technology served as the benchmark for the success of this community service activity. The detailed stages from implementation to evaluation are presented in Table 1.

Table 1. Details of Activity Implementation and Evaluation

No.	Activity	Activity	Time
1	Opening	Welcoming remarks from the school and introduction of the community service team	Minutes 0–10
2	<i>Pre-test</i>	Completion of the pre-test questionnaire by participants.	Minutes 10–35
3	Interactive Counseling	Delivery of material on the definition of personal data, types of data that must be protected, and the risks of personal data leakage	Minutes 35–75
4	Practical Training	Training on creating strong passwords, configuring social media account privacy settings, and avoiding the sharing of sensitive information through simulations and hands-on practice	Minutes 75–105
5	Discussion and Question-and-Answer Session	Discussion session for questions, answers, and sharing participants' experiences	Minutes 105–110
6	<i>Post-test</i>	Completion of the post-test questionnaire to measure changes in participants' understanding	Minutes 110–115
7	Conclusion Delivery	Delivery of conclusions and key messages from the activity	Minutes 115–118
8	Documentation	Documentation of the activity in the form of photos and videos	Minutes 118–120

3. Results and Discussion

a. Implementation

The community service activity was implemented at the partner location, namely SMKS Metta Maitreya Pekanbaru, located at Jl. Tuanku Tambusai, Puri Nangka Sari Complex, Pekanbaru City, Riau Province. The activity began with welcoming remarks and guidance from the accompanying teachers. The participants came from two classes, namely X TKJ 1 and X TKJ 2, with a total of 45 participants. The activity was conducted on January 7, 2026, at 08.00 WIB.

With their academic background in Computer and Network Engineering (*Teknik Komputer dan Jaringan/TKJ*), the students basically had initial knowledge related to the use of technological devices and digital systems. However, this understanding needs to be supported by adequate awareness of security aspects and personal data protection. Therefore, this community service activity was designed as an effort to strengthen students' knowledge and increase their awareness so that they are able to recognize and apply appropriate personal data protection practices in their daily digital activities.

The activity began with guidance from the class accompanying teachers, followed by the distribution of the pre-test questionnaire, and continued with the delivery of material by the community service team. The material was presented systematically with the aim of improving participants' understanding and awareness of the importance of personal data protection. The material covered the definition and types of personal data, case studies as an effort to increase awareness, regulations on personal data protection in Indonesia and at the global level, risks of personal data dissemination and leakage, methods of protecting personal data from the perspective of electronic system users, and methods for checking potential personal data leakage. Figure 2, Figure 3, and Figure 4 present the opening session, material delivery, and activity atmosphere, respectively.



Figure 2. Group Photo with Participants



Figure 3. Material Delivery



Figure 4. Activity Atmosphere

The material was delivered interactively by involving participants through discussion, question-and-answer sessions, and case examples that were closely related to their daily digital activities. In addition, participants were also given the opportunity to directly practice several personal data protection steps, such as creating strong passwords, configuring privacy settings on social media accounts, and recognizing indications of personal data leakage. Throughout the activity, participants appeared enthusiastic and motivated in following the presentation, asking questions, and responding to questions from the community service team.

At the end of the presentation, the team introduced account security methods and platforms that participants could use to check whether their account data had been leaked. The introduced platforms were "Have I Been Pwned," accessible at <https://haveibeenpwned.com/>, and "Periksa Data," accessible at <https://periksadata.com/>. Both platforms provide similar features and were selected based on considerations of accessibility and free use, making them suitable for students. In addition, "Periksa Data" was selected as an alternative for students who were less familiar with English. Figure 5 shows the atmosphere during the practice session on checking personal data leakage.

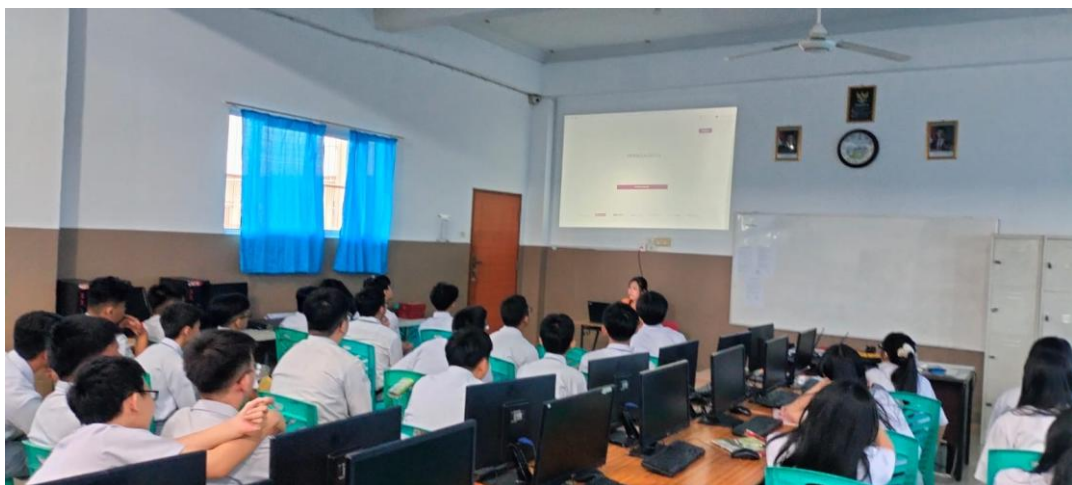


Figure 5. Practice Session on Checking Personal Data Leakage

Figure 6 shows the documentation of the community service activity, which ended with a group photo session involving the community service team, accompanying teachers, and all participants. This closing activity served as a moment of reflection on the series of activities that had been carried out and was expected to strengthen positive impressions and benefits for all parties involved.



Figure 6. Group Photo

b. Evaluation

To measure the effectiveness of the community service activity, an evaluation was also conducted by measuring participants' level of understanding before and after the activity. Table 2 presents a summary and calculation results of the increase in participants' knowledge and awareness. The characteristics of TKJ students, who are accustomed to using digital devices and systems, contributed to their rapid adaptation to technical materials, particularly in the practice of configuring account privacy settings and using data leakage checking platforms. However, the pre-test results showed that familiarity with technology is not automatically followed by adequate understanding of security aspects and personal data protection. This indicates a gap between operational skills and digital security awareness.

Table 2. Comparison of Participants' Understanding (Pre-Test and Post-Test)

No.	Code	Statement	Pre-test (%)	Post-test (%)	Improvement (%)
1	P1	I understand the meaning of personal data.	22	93	71
2	P2	I know the types of personal data that need to be protected.	27	93	66
3	P3	I understand the risks of personal data leakage.	31	96	65
4	P4	I know examples of personal data leakage cases.	24	98	74
5	P5	I know how to protect personal data when using the internet.	33	100	67
6	P6	I understand how to create a strong password.	89	100	11

7	P7	I know how to configure privacy settings on social media.	78	98	20
8	P8	I know the regulations on personal data protection.	11	98	87
9	P9	I am able to recognize indications of personal data leakage.	22	98	76
10	P10	I can apply personal data protection practices in daily activities.	22	89	67
Total Improvement					60%

The evaluation results showed a 60% increase in participants' initial understanding and awareness of personal data. The three highest percentage increases were found in statement code P8 regarding personal data protection regulations, with an increase of 87%, followed by statement code P9 regarding the recognition of indications of personal data leakage, with an increase of 76%, and statement code P4 regarding examples of personal data leakage cases, with an increase of 74%. The relatively large difference between the pre-test and post-test scores indicates that, prior to the intervention, participants' conceptual understanding was still limited.

4. Conclusion

The community service activity was conducted with the aim of increasing students' awareness of personal data protection in digital activities. Based on the implementation of the activity, this objective was successfully achieved, as indicated by the increased awareness among participants regarding the importance of maintaining the security and privacy of personal data. This activity helped participants understand the risks of data leakage and encouraged a more cautious and responsible attitude in the use of digital technology in daily life.

As a follow-up, personal data protection education activities are recommended to be conducted continuously by adjusting the materials to current developments in digital security issues. In addition, strengthening the role of teachers as facilitators is necessary so that the implementation of personal data protection practices can be carried out consistently. The integration of materials related to digital ethics, online privacy, and electronic system security into learning activities is also recommended to expand the impact of the community service activity and build safe and responsible digital behavior.

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