Digital Literacy Seminar: "Caring for Personal Data Security in the Digital World"

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Abstract

Technology is becoming a tool to improve human performance, especially in the era of the Industrial Revolution 4.0, which is currently developing rapidly. The connectedness of various systems through the internet has led Indonesia to have 212.9 million internet users, covering 77% of the total population, with 78.5% of them active on social media. This phenomenon has brought about unprecedented growth in collecting and storing personal data that should be watched out for. Protecting personal data is essential, especially as internet users grow, increasing individuals' vulnerability to cybercrime. From 2022 to 2023, scams via WhatsApp messages manipulated with malicious attachments of images or links have become prevalent. To overcome this challenge, MTI UAD, in collaboration with the Regional Leadership of 'Aisyiyah Alor Regency, organized a digital literacy seminar to increase mothers' knowledge about the importance of protecting personal data in the digital world to minimize the risk of fraud. As a result, after attending the seminar, participants' knowledge increased significantly from under 50% to around 73%. Personal data protection efforts include sharing information, avoiding receiving files or applications from unknown sources, social engineering, and installing applications only from trusted sources.
Keywords:digital literacy, personal data ,security, digital world

INTRODUCTION

Technology is a tool or system that can reduce human workload. Technological development has reached the stage of revolution 4.0, with the development of the Internet of Things (IoT) and artificial intelligence, big data, and interconnectivity. Changes in technology have provided convenience for humans in various aspects of life, including social and work life (Riadi et al., 2022). In 2023, internet users in Indonesia reached 212.9 million. 77% of the Indonesian population already uses the Internet. There was an increase in internet users by 5.2% compared to 2022. Social media users in Indonesia reached 167 million. Social media users reach 78.5% of Internet users (Kemp, 2023).

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The internet network allows all humans to be connected in one network. The existence of the Internet makes a person able to find out various information (Wiwi & Syahlanisyiam, 2022). Current developments result from remote home control, mobile banking systems, online class systems (zoom, skype, Google Meet), and social media (WhatsApp, Facebook, Instagram, TikTok, Twitter, et al.). Social media can increase one's popularity (Alvi Sholikhatin et al., 2020) (Anshori, 2019), sales through marketplaces (Puspitarini & Nuraeni, 2019) (Hanlon & Tuten, 2022), endorse (Sukma & Deviana, 2020), learning media (Komariah et al., 2021), public policy (Anjar et al., 2021), self-development (Sukma & Deviana, 2020), increase entrepreneurship (Sofi et al., 2023).

Technology always has 2 sides, positive and negative. Technology will be positive if the user behaves positively (Suharyadi & Maria, 2019). Conversely, the technology will be harmful if the user is negative (Baskoro & Mutholib, 2020). The Internet does make it easier for humans, but besides its convenience, it contains the risk of crime (Bergmann et al., 2018). The large number of Internet users must be harmonized with knowledge of Internet technology and security. This knowledge has not been evenly distributed throughout. It makes technological security vulnerabilities even higher. The threats and dangers that will occur will also be high if it has a high vulnerability (Alvi Sholikhatin et al., 2020). Various groups of people still need to implement data security on their social media entirely. From the end of 2022 to early 2023, fraud related to short messages through the WhatsApp application was rampant. Fraud involves short messages such as electricity bills, package delivery, and web invitations. Malware in the form of .apk files sent to WhatsApp users, which are packaged in the form of images with deceptive words so that victims unknowingly click on the malware, and the malware will be installed directly on the device (Fakta, 2022)(Sasongko, 2023), this will not happen if smartphone users understand the security concepts provided by smartphones both android and iPhone.—A survey conducted by Gunawan (Gunawan, 2021) at one of the universities in the Information Systems department. Many students understand the importance of data security, but their behaviour does not follow the requirements. Regular password changes, accessing vital information through public services, listing personal information on social media, and not applying privacy settings.

The community must consider information security on personal data (Betty Yel & M Nasution, 2022) (Khiralla, 2020). Infrequent password changes, accessing vital information on public services, and downloading applications without paying attention to the source make the information leakage gap even higher. Leaking information can cause various fatal risks, such as fraud, hacking, and using personal data without the owner knowing (Arie et al., 2022), the sale of personal data is a threat in itself (Nyoni & Velempini, 2018), Even Facebook itself has given unlimited access without permission to its users' personal information Cambridge Analytica data company (Isaak & Hanna, 2018) data which has drawn a lot of criticism. Training, seminars and education is one way to improve understanding of data security.

Based on this premise, the Master of Informatics at Universitas Ahmad Dahlan Yogyakarta in collaboration with the Regional Leadership of 'Aisyiyah in Alor Regency, East Nusa Tenggara held a seminar "Caring for Data Security in the Digital World". With the hope of increasing participants' understanding of the importance of caring for personal data when in the digital world.

Figure 1. Online seminar participants

Figure 2. Offline seminar participants

Figure 3. Post-seminar photo documentation

RESEARCH METHOD

This seminar activity is divided into three stages of activity as in the flowchart of activities in Figure 2:

Figure 4. Activity flow chart

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Pre seminar activities

Pre-seminar activities are a series of steps taken in preparation for the seminar. Activities covered in pre-seminar activities include:

- The team surveys the location of the activity.

- The team and the leader discuss the activity implementation plan.

- The team and the leadership discuss the number of participants expected and the targets to be achieved in the seminar.

- Determining the theme of the activity, the schedule of events, and the method of implementation that will be used.

- The team and the leaders planned and compiled a detailed activity rundown.

- The team prepares the materials to be delivered in the seminar.

- All of these steps are an essential part of the preparation to ensure the smoothness and success of the seminar.

Implementation of seminar activities

This is the core of the seminar. The seminar was held in a blended format, combining offline and online sessions. The online sessions were conducted through the Zoom platform, while the offline sessions took place in the hall of SMA Muhammadiyah Kalabahi. Before the material was delivered, there was an initial test (pre-test) to measure the participants' initial understanding of the material to be delivered. After the delivery of the material, a final exam (post-test) was conducted to assess the participant's understanding of the material that had been delivered.

Post seminar activity

Post-seminar activities involve evaluating the participants' understanding of the material that has been delivered. This evaluation process is carried out by comparing the results of the pre-test and post-test to measure the extent to which the success of this seminar has achieved its objectives. In addition, the post-seminar stage also involves the preparation of a report and documentation of the activity as an essential part of the effort to improve and track the progress of the activity.

RESULTS AND DISCUSSION

The digital librarization seminar activity which is the People Empowerment Program (Prodamat) Master of Informati Ahmad Dahlan University Yogyakarta in collaboration with the Regional Leadership (PD). Aisyiyah Alor Regency, was conducted in a blended manner, namely online and offline. Online using the Zoom platform and offline carried out at the Muhammadiyah Kalabahi High School Hall, Alor NTT. It was held on February 19, 2023, 09.30 - 12.30 WITA. The research participants consisted of PD Aisyiyah Alor Regency, Nasyiatul Aisyiyah, Branch Leaders (PC) Aisyiyah ABAL, and representatives of women's majelis taklim.

Mrs. Mentia Beleng, Vice Chairperson of the da'wah field of PD Aisyiyah, in her speech appreciated this activity, because with activities like this it will open the insight of mothers about the dangers that threaten if they are not careful in maintaining personal data on the internet,

because nowadays almost everyone cannot be separated from cellphones. Meanwhile, Mr. Anton Yudhana, ST, M.T., Ph.D. representing MTI Ahmad Dahlan University conveyed in his speech about the challenges in the digital society era that are not only experienced by the Indonesian nation but experienced by all people of the world, he invited participants to improve the quality of aqidah, become sholeh-sholehah individuals including sholeh-sholehah in using gadgets.

The seminar began with filling out a pre-test to find out the extent of the participants' understanding of the material to be delivered related to the participants' concern for personal data in the digital world. Pre-test questions can be seen in table 1, Answers and ratings consist of four categories of understanding, as in table 3.

The pre-test questionnaire was filled in by the training participants, namely 26 participants who had an age range of around 26 years to 55 years. All participants had android phones in their family environment. The average participant has less knowledge related to personal data. Vulnerability and theft of personal data had an average score of 1.96. Knowledge related to social engineering has the lowest average score of 1.76. Knowledge of gift threats had an average score of 2.16.

Table 1. Pre-Test Questions

NO	QUESTION	TOTAL SCORE	AVERAGE
1.	How old are you	-	-
2.	Do you or a family member have an Android phone at home?	-	-
3.	Do you know what personal data is?	50	2.0
4.	Do you know that others can steal personal data?	49	1.96
5.	Do you know that your data can be used for something negative	50	2.0
6.	Do you know that one of the ways to protect your social media accounts and other accounts is with 2-step verification?	48	1.92
7.	When installing applications on Android phones, do you pay more attention to requests for access permissions by applications?	50	2.00
8.	Do you know what social engineering is?	44	1.76
9.	Now, smartphone users often get messages with gifts or threats. Do you know that is one way to steal personal data?	54	2.16
Total		345	13.8
Average		49.28	1.97

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<div align="center">**Table 2.** Post-Test Questions</div>

NO	QUESTION	TOTAL SCORE	AVERAGE
1	This seminar activity gave me an understanding of what personal data must be protected	63	3.00
NO	QUESTION	TOTAL SCORE	AVERAGE
2	This seminar activity made me more careful about protecting my data on the internet	63	3.00
3	This seminar activity gave me an understanding that specific individuals can use my data for crimes	67	3.19
4	This seminar activity gave me an understanding of how to protect personal data	58	2.76
5	This seminar activity gave me the understanding to be careful in giving access permissions to applications	62	2.95
6	This seminar activity gave me an understanding of how social engineering works	53	2.52
7	This seminar activity gave me an understanding to be careful of social engineering and other data theft efforts	64	3.05
Total		430	20.47
Rata-rata		61.43	2.92

<div align="center">**Table 3.** Assessment Score</div>

Understanding level	Scoring
Do not understand	1
Less Understan	2
Understand	3
Understand very well	4

The delivery of material in the seminar was carried out through the lecture method interspersed with interesting quizzes and demonstrations about phishing emails. The participants seemed very enthusiastic in listening to the speaker and answering the questions asked.

The material began by presenting statistics on internet and social media users, as well as various types of personal data that can be targeted by hackers. It then explained how a hacker can use the data as an entry point to steal personal data, along with the protective measures that can be taken.

The seminar ended with a post-test to measure participants' understanding of the material presented. This post-test contains questions as listed in Table 2, so as to measure the extent to which participants have understood the material that has been taught during the seminar.

The data in Table 2 shows the results of the participants' knowledge level after attending the seminar. There is an increase in the score on each question. The first question related to personal data and data that must be protected has an average score of 3.00. Participants have been more

careful in protecting their personal data on the Internet. The score on this question has an average of 3.00. participants are more aware that personal data can be used by certain individuals with a score of 3.19.

Based on the data in Table 1 and Table 2 and summarized in Figure 4, it is known that after the seminar activities there was an increase in participants' understanding of the importance of personal data security in the digital world. Figure 4 illustrates that the average level of understanding of participants before the seminar was 1.97 or 49.25%. This percentage is obtained from the average number compared to the maximum number that can be achieved, namely 4, according to the data in Table 3. Meanwhile, after the activity, there was an increase in participants' understanding with an average score of 2.92 or 73%.
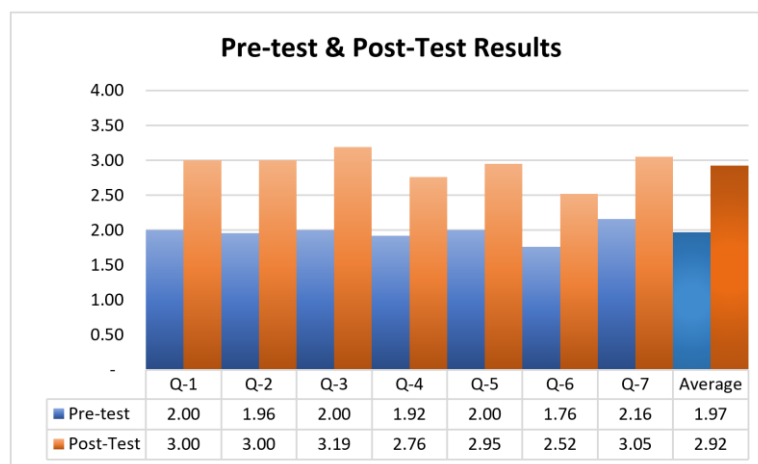

Pre-test & Post-Test Results

	Q-1	Q-2	Q-3	Q-4	Q-5	Q-6	Q-7	Average
Pre-test	2.00	1.96	2.00	1.92	2.00	1.76	2.16	1.97
Post-Test	3.00	3.00	3.19	2.76	2.95	2.52	3.05	2.92

Figure 5. Pre-test and post-test comparison graph

The results of the pre-test and post test are then calculated the value of understanding related to personal data security. The results of these scores will be converted into four understanding criteria. The four criteria can be seen in Table 4. From Table 4, it can be concluded that the seminar participants became AWARE and concerned about their personal data in the digital world.

Table 4. Score Conversion for understanding level

Score range	Understanding Criteria
$X \leq 1.75$	Do not understand
$1.75 < X < 2.50$	Less Understan
$2.50 < X < 3.25$	Understand
$X \geq 3.25$	Understand very well

CONCLUSION AND RECOMMENDATIONS

The PRODAMAT activity, which was held in the form of a digital literacy seminar, "Caring for Personal Data in the Digital World", was successfully implemented as expected. Participants understood the importance of protecting personal data on the internet. There was an increase in understanding before and after by 23.75%, from a score of 1.97 to 2.92. It is expected that

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participants can improve internet security for daily activities and can anticipate data vulnerabilities in the digital world.

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