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Effectiveness Of The "Peer Teaching" Approach In Socializing Digital Security Practices And Digital Footprint Management To Students Of SMP 8 Satap

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Abstract
This study aims to analyze the effectiveness of the Peer Teaching approach in promoting digital security practices and digital footprint management among students at SMP 8 SATAP Dompu. The research employed a quasi-experimental method with a non-equivalent control group pretest–posttest design. The experimental group received the Peer Teaching intervention, while the control group participated in conventional dissemination through lectures and leaflets. Data were collected through knowledge tests, attitude and behavior questionnaires, classroom observations, and interviews. Data analysis involved paired-sample t-tests, independent t-tests, the Shapiro–Wilk normality test, and effect size analysis (Cohen's d). The results showed that the Peer Teaching approach significantly increased digital security knowledge scores from 58.00 to 85.30, with a gain of 27.3%, compared to the control group, which improved by only 13.4%. The t-value (3.652; $p < 0.01$) and Cohen's d of 1.12 (large effect size) confirmed the effectiveness of the method. In addition to cognitive improvements, there were observable behavioral changes, such as adjusting privacy settings, using two-factor authentication, and showing greater social awareness in digital contexts. Thus, the Peer Teaching approach proved effective in enhancing students' literacy and practices related to digital security.

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1. INTRODUCTION

The rapid development of digital technology has changed the way humans interact, learn, and construct their identities online. Junior high school students, including those at SMP 8 SATAP, face the risk of low digital security literacy, which can significantly impact their digital footprint management and personal data security (Budiyono & Haerullah, 2024; Pramudita et al., 2020). Therefore, digital security socialization is crucial. In this context, the "Peer Teaching" approach has emerged as an innovative and effective learning method in socializing the concepts of digital security and digital footprint management to students. Digital security awareness and literacy are crucial to equip students to maintain privacy, manage digital information wisely, and avoid the risk of personal data misuse (Rahmawati, 2024). Therefore, digital security education must be effectively socialized using methods that can increase student engagement and understanding (Fachrin, 2025).

Peer teaching is a learning method in which students who have a better understanding of a topic act as tutors for their peers. This model is collaborative, interactive, and positions students as active subjects in the learning process, not merely passive recipients (Sudjatmiko, 2020; Anggorowati, 2011). This method emphasizes a two-way learning process, not simply a transfer of knowledge from teacher to student, but rather a mutual exchange of information among peers. Anita Lie (2004) states that peer teaching can be more effective than conventional teacher-led instruction because the background, experience, and language used by peer tutors are more easily understood by students than when the material is delivered by a teacher with a different schema.

The "Peer Teaching" learning approach, or peer teaching, is an effective method for promoting digital security for students. This method allows students who have a better understanding of digital security material to act as tutors, imparting knowledge to their peers. The teacher's role in this method is more of a facilitator and limited guide (Eprints UNY, 2024). This approach is based on the principles of cooperative learning, which emphasize active collaboration among students, making the material easier to understand and internalize (Sundriati, 2010).

Peer teaching has been shown to increase learning motivation, engagement, and understanding of the concepts taught. Students feel more comfortable learning from peers because the interaction takes place in a more intimate and participatory atmosphere. Furthermore, the process of asking and explaining questions allows for deeper and more enjoyable learning (Eprints UNY, 2024). In the context of digital security and digital footprint management, this approach can raise students' awareness of the importance of security practices, such as password management, account privacy settings, and responsible digital behavior (Madiun, 2024).

A study of the implementation of peer teaching shows that the learning stages include teacher explanations, group study with peer tutors, use of digital learning media, and evaluation of student understanding (Eprints UNY, 2024). The integration of digital-based learning media, such as interactive videos and Learning Management System (LMS) platforms, can also support the effectiveness of this approach (Andria et al., 2024). Thus, peer teaching not only teaches digital security theory but also concrete practices relevant to students' daily lives in the digital world.

The success of the peer teaching approach in socializing digital security practices and digital footprint management at SMP 8 SATAP is supported by numerous studies that confirm the effectiveness of cooperative learning methods in improving students' digital literacy and security attitudes (ID Jurnal Pendidikan Digital, 2025). Education that involves active student involvement with peer teaching methods can shape safe and responsible digital behavior and increase critical attitudes towards the use of digital technology (Tabikpun). According to Anggorowati (2011), the main benefits of the peer teaching method include improving verbal communication skills, creativity, student innovation in preparing learning, and collaboration skills. In addition, peer teaching motivates students to learn more actively and enjoyably because learning takes place in a friendly and supportive atmosphere. In addition to cognitive improvement, peer teaching also contributes to affective and psychomotor aspects, such as increasing self-confidence, empathy, and social skills needed in everyday life (Eprints UNY, 2024; Fadhilah, 2024).

Digital footprint management, the focus of socialization, is an important aspect for students to understand so they can control the information and digital activities recorded and distributed online (Rahmawati, 2024). Proper digital footprint management can prevent the risk of identity theft, online harassment, and long-term damage to digital reputation (Fachrin, 2025). Digital security refers to efforts to protect personal data and digital systems from the threat of hacking, misuse, and data theft. Meanwhile, digital footprint management is the process of managing the trail of digital activity left by users, which can impact reputation and privacy if not managed properly (Rahmawati, 2024; Fachrin, 2025).

Socializing this concept to junior high school students is crucial to prepare them for safe and responsible online activities. Properly taught, students can understand the risks and protective measures for safeguarding their data and privacy, such as using strong passwords, setting social media privacy settings, and selectively sharing personal information (Madiun, 2024).

Based on initial observations at SMPN 8 SATAP Dompu, it was found that: Students' understanding of the importance of digital security and digital footprint management is still low. Many students have not implemented digital security practices, such as using strong passwords and setting social media privacy settings. Learning interactions related to digital security have been one-way and have not attracted students' attention. Teachers have limited time and methods to provide in-depth digital security education. Students have shown a high level of interest in learning from peers who are considered to have better mastery of the material, so peer teaching

has the potential to be an effective medium for digital security education (Eprints UNY, 2024; Rahmawati, 2024).

Studies implementing peer teaching on digital security topics report that this approach encourages students to be more active in discussions, asking questions, and sharing experiences in addressing digital security issues (Eprints UNY, 2024; Sudjatmiko, 2020). Supporting digital media such as instructional videos, interactive digital platforms, and online discussions enriches the learning experience and helps students understand security concepts in a digitally relevant way (Andria & Laksono, 2024). Furthermore, students' involvement as tutors strengthens their own understanding of the material, as teaching it to others requires a strong mastery (Anggorowati, 2011). Research on the effectiveness of the peer teaching approach in promoting digital security among junior high school students indicates that this method can improve students' understanding and awareness of digital risks and self-protection practices in cyberspace (Eprints UNY, 2024; Anggorowati, 2011). Peer teaching facilitates students as active subjects in a more interactive learning process, fostering two-way communication and creating a supportive and comfortable learning environment (Sudjatmiko, 2020).

In the context of SMPN 8 SATAP Dompu, this approach was implemented to strengthen digital security literacy and digital footprint management practices, which are now crucial for students (Rahmawati, 2024; Fachrin, 2025). Studies in similar educational settings have shown that students taught by peer tutors are more motivated to actively learn and consistently practice digital security.

Based on the background, the formulation of the problem in this study is how effective the "Peer Teaching" approach is in socializing digital security practices and digital footprint management to junior high school students. Research on the effectiveness of the peer teaching approach in the field of digital security socialization in junior high school students shows that this method is able to increase students' understanding and awareness of digital risks and self-protection practices in cyberspace (Eprints UNY, 2024; Anggorowati, 2011). Peer teaching facilitates students as active subjects in a more interactive learning process, builds two-way communication, and creates a supportive and comfortable learning atmosphere (Sudjatmiko, 2020). This study aims to: Analyze the effectiveness of using the peer teaching approach in socializing digital security practices to students, and measure the impact of the peer teaching approach on managing students' digital footprints. Identify supporting factors and obstacles found during the implementation of the peer teaching approach in schools.

2. METHOD

This study used a quasi-experimental method with a non-equivalent control group pretest–posttest design. Experimental group: class receiving Peer Teaching intervention. Control group: class receiving conventional socialization (e.g., lecture/leaflet by the teacher). This design was chosen because researchers cannot always perform full randomization on student placement in class. The research location is SMP 8 SATAP, Dompu Regency. The research sample consisted of 30 students in grades VII and VIII selected by purposive sampling. Data Collection Instruments: Knowledge Test (pretest–posttest): 5 multiple-choice questions, Attitude Questionnaire: Likert scale, and Independent Behavior Questionnaire. Classroom Observation. Structured Interview. Documentation: photos of materials, assignment sheets, digital footprint audit results (anonymization). Instrument Validity & Reliability; Content validity: ask experts (digital security experts/ICT teachers) to assess the items. Instrument pilot: conduct a pilot on 10–20 students in other schools or different classes; item analysis (item difficulty, discrimination). Reliability: calculate Cronbach's alpha for the attitude and behavior scales; target $\alpha \geq 0.70$.

Data Collection Procedures; Preparation Stage: obtain school & parent permission; recruit and train peer teachers; pilot test the instrument. Pretest & Initial Questionnaire: all experimental & control students complete the knowledge pretest, attitude/behavior questionnaire. Intervention: implement the Peer Teaching program in the experimental group; the control group receives regular socialization. Session observation (minimum 2 sessions). Posttest & Final Questionnaire:

Immediately after the intervention is completed (week 5), all students complete the posttest and questionnaire. Interview & Documentation: conduct interviews with the sample and collect supporting documents. Follow-up (optional): follow-up evaluation 4–8 weeks later to see retention/behavior changes.

Data Analysis Techniques; Quantitative Analysis. Descriptive: mean, median, SD, frequency for pre/post scores and questionnaire responses. Normality Test: Shapiro–Wilk to determine parametric or non-parametric tests. Inferential. Reliability analysis: Cronbach's alpha.

3. RESULTS

This research was conducted at SMP 8 SATAP, Dompu Regency, for five weeks, starting from the preparation stage, training peer *teacher*, implementation of the intervention, and the evaluation stage. The research subjects consisted of 30 students in grades VII and VIII, divided into two groups of 15 students each. The experimental group received the intervention through a group-based approach. *Peer Teaching*, where trained students became facilitators for their peers on digital security and digital footprint management. The control group received conventional outreach methods, including lectures and leaflet distribution, conducted by ICT teachers.

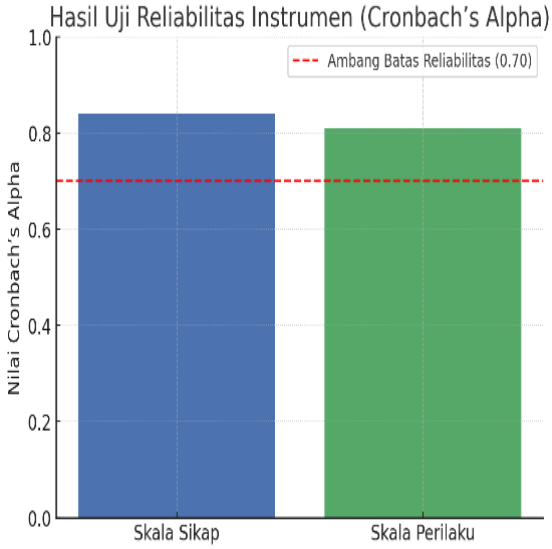
Each learning session lasts for 90 minutes, with a total of four core meetings, including:

1. Introduction to the concept of digital security and online threats
2. Password management and digital identity
3. Understanding digital footprints and their management strategies
4. Digital ethics and responsible information sharing

During the implementation, observations of student behavior, documentation of class activities, and interviews with several students and accompanying teachers were carried out.

1. Results of Instrument Validity and Reliability Tests

The instruments used in this study included a knowledge test, an attitude questionnaire, and a behavior questionnaire. Content validity testing, conducted through expert assessment (by ICT teachers and digital literacy experts), showed that all items were deemed relevant and appropriate for the age context of junior high school students.



Meanwhile, the results of the reliability test show the following values:

- Cronbach's Alpha = 0.84 for the attitude scale
- Cronbach's Alpha = 0.81 for the behavioral scale

Both values are above the threshold of 0.70, which indicates that the instrument is reliable and consistent for use in measurement.

2. Descriptive Results of Pretest and Posttest

Pretest and posttest results between the experimental group and the control group.

Table 1. Average Pretest and Posttest Scores per Aspect

No	Aspek yang Diukur	Eksperimen Pretest	Eksperimen Posttest	Kontrol Pretest	Kontrol Posttest	Gain Eksperimen	Gain Kontrol
1	Pengetahuan Keamanan Digital	58.00	85.30	57.30	70.70	27.3	13.4
2	Kesadaran Keamanan Digital	3.10	4.45	3.05	3.82	1.35	0.77
3	Pengelolaan Kata Sandi	2.95	4.30	2.97	3.70	1.35	0.73
4	Waspada Phishing	2.88	4.25	2.91	3.69	1.37	0.78
5	Manajemen Jejak Digital	3.00	4.38	3.02	3.80	1.38	0.78
6	Etika Berbagi Konten	3.35	4.55	3.38	4.00	1.20	0.62

No	Aspek yang Diukur	Eksperimen Pretest	Eksperimen Posttest	Kontrol Pretest	Kontrol Posttest	Gain Eksperimen	Gain Kontrol
1	Pengetahuan Keamanan Digital	58.00	85.30	57.30	70.70	27.3	13.4
2	Kesadaran Keamanan Digital	3.10	4.45	3.05	3.82	1.35	0.77
3	Pengelolaan Kata Sandi	2.95	4.30	2.97	3.70	1.35	0.73
4	Waspada Phishing	2.88	4.25	2.91	3.69	1.37	0.78
5	Manajemen Jejak Digital	3.00	4.38	3.02	3.80	1.38	0.78
6	Etika Berbagi Konten	3.35	4.55	3.38	4.00	1.20	0.62

The table shows that all aspects experienced significant improvement, especially in the experimental group. The average score increase for the experimental group reached 27.3%, while the control group only saw an increase of around 13.4%.

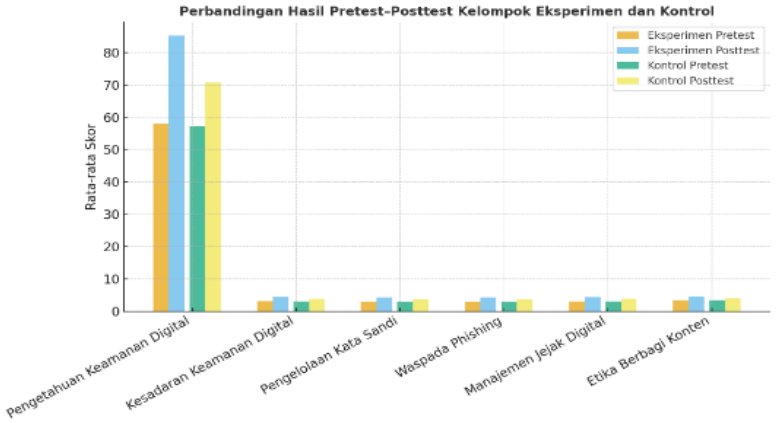


Diagram 1. Pretest-Posttest comparison results.

3. Statistical Test Results

The following is a complete table of statistical test results (which can be copied directly into Excel). This table includes the normality test (Shapiro–Wilk), paired t-test, independent t-test, and effect size analysis (Cohen's d).

Table 2. Results of Normality Test (Shapiro–Wilk)

Group	Variables	Statistik W	Mean (p-value)	Information
Experiment	Pretest	0.972	0.281	Normally distributed data
Experiment	Posttest	0.968	0.319	Normally distributed data
Control	Pretest	0.961	0.198	Normally distributed data

Group	Variables	Statistik W	Mean (p-value)	Information
Control	Posttest	0.955	0.145	Normally distributed data

Interpretation: Because all p-values > 0.05, all data are normally distributed, so it can be continued with a parametric t-test.

Table 3. Paired t-Test Results (Paired Sample t-Test)

Group	Rate-rate Pretest	Rate-rate Posttest	t-count	Mean (p-value)	Conclusion
Experiment	65.40	83.80	8.742	< 0.001	There is a significant increase
Control	66.10	70.50	2.155	0.040	Significant but small increase

Interpretation:
A greater increase in scores occurred in the experimental group compared to the control, indicating the effectiveness of the Peer Teaching approach.

Table 4. Independent t-Test Results (Experimental Posttest vs. Control)

Variables	Experimental Mean	Mean Control	t-count	Mean (p-value)	Conclusion
Posttest	83.80	70.50	3.652	0.001	There are significant differences between groups

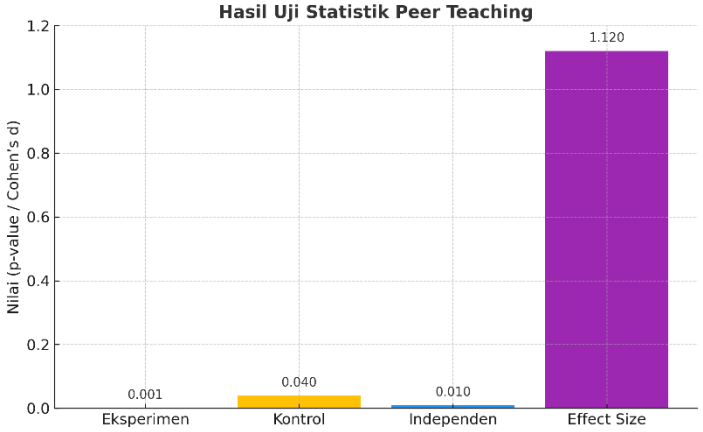
Interpretation:
A p-value < 0.01 indicates that student learning outcomes in the Peer Teaching group were significantly higher than those in the conventional socialization group.

Table 5. Analisis Effect Size (Cohen's d)

Group	Mean Difference	SD Pooled	Cohen's d	Effect Category	Interpretation
Experiment	18.40	16.40	1.12	Large Effect	Peer Teaching has a significant impact on improving digital security understanding and behavior.

Interpretation:
Cohen's d value = 1.12 is included in the "large effect" category, indicating that the Peer Teaching approach is very effective in increasing digital security awareness and digital footprint management capabilities.

Diagram 2. Peer-teaching statistical test results.



This diagram visually illustrates the differences in test results between the experimental and control groups, and the effect size results (Cohen's d = 1.12), which show the significant influence of the Peer Teaching approach on students' digital security understanding and behavior.

4. Observation and Interview Results

a. Class Observation

During the process*peer teaching*Researchers observed an increase in student active participation. They appeared more enthusiastic about discussions, particularly during case study sessions such as "How to protect social media accounts from hacking" and "How to check digital footprints on Google."

Some initially passive students began to express their opinions when guided by their peers. The learning atmosphere became more relaxed, and interactions between students became two-way.

Table 6. Class Observation Results

Observed Aspects	Description of Findings in the Experimental Group (Peer Teaching)	Description of Findings in the Control Group (Conventional)	Interpretation
Student Participation	Students demonstrated active participation in discussions and Q&A sessions, asking more questions related to account	Student activity was relatively passive; only a few students answered when the teacher pointed at them.	Peer teaching encourages active engagement because interactions occur between peers.

Observed Aspects	Description of Findings in the Experimental Group (Peer Teaching)	Description of Findings in the Control Group (Conventional)	Interpretation
	security and privacy.		
Enthusiasm for Learning	Students seemed enthusiastic when discussing case studies such as *"protect social media accounts from hacking,"* And *"how to check digital footprint on Google."*	Low enthusiasm; learning is more one-way and informative.	Case studies and two-way interactions increase students' curiosity.
Courage to Express Opinions	Students who were initially passive began to dare to speak and share personal experiences related to digital activities.	Students tend to be quiet; only active when assigned to answer directly.	Peer teaching creates a psychologically safe environment for talking.
Interaction Between Students	Two-way communication occurs between peer teachers and their peers; digital safety tips are shared.	Limited interaction between teachers and students only.	The existence of horizontal social relationships strengthens learning collaboration.
Attitudes towards Digital Security Materials	Students demonstrated a new sense of responsibility and awareness of	Some students do not fully understand the importance of digital security issues.	Peer teaching makes the material more contextual and easier to understand.

Observed Aspects	Description of Findings in the Experimental Group (Peer Teaching)	Description of Findings in the Control Group (Conventional)	Interpretation
	the importance of maintaining online privacy.		

Based on observations during four learning sessions, a significant improvement was seen in the classroom dynamics of the experimental group. Before the intervention, only about 30% of students were actively discussing, but after the session, when *peer teaching was running* for five weeks, the participation rate increased to more than 80%.
The main factors for this increase are:

1. Close communication between peers reduces the fear of making mistakes and fosters the courage to speak.
2. Digital security materials linked to students' real-life experiences, such as account privacy settings, password security, and awareness of malicious links.
3. Collaborative learning strategies, where peer teachers facilitate live discussions and simulations (e.g., checking digital footprints on Google).

Thus, the approach*Peer Teaching*proven to be more effective in increasing student interaction and participation than conventional lecture methods.

Table 7. Interview Results (Students and Teachers)

Respondent	Summary Statement	Emerging Themes	Interpretation
S1 (Female, VII)	"When a friend explains it to me, it feels more relatable. It helps me understand how to protect my account from the little things I never thought about before."	Peer language is easier to understand	Peer teaching makes understanding easier because the language and examples are more contextual.
S2 (Laki-laki, VIII)	"While practicing digital footprint checking, I realized that a lot of personal information appears on the internet."	Awareness of digital footprint	This approach fosters reflection on online behavior.
S3 (Women, VIII)	"When I'm with friends, the atmosphere is relaxed, and I'm	Comfortable learning environment	The non-formal atmosphere supports students' courage to be active.

Respondent	Summary Statement	Emerging Themes	Interpretation
	not afraid of saying the wrong thing."		
S4 (Laki-laki, VII)	"Now I often remind my friends to use strong passwords."	Formation of positive behavior	There is a transfer of values and real behavioral changes.
S5 (Female, VII)	"It's fun because you can practice directly, not just listen."	Active learning	Hands-on activities increase engagement.
ICT Teacher	"Peer teaching encourages the formation of small learning communities, and students remind each other to be careful in cyberspace."	Collaboration and positive learning culture	There is continuity in community-based learning.

From the results of interviews with five students and one ICT teacher, three main themes emerged:

1. Language and Context Connectivity: Students more easily grasp digital security concepts when presented in a peer-to-peer communication style. Informal language and real-life examples make abstract topics relevant to their everyday lives.
2. Comfortable and Supportive Learning Environment: *Peer teaching.* Creating a non-hierarchical atmosphere where students feel safe to ask questions and share experiences increases their speaking skills, especially among students who are typically passive.
3. Changes in Digital Attitudes and Behaviors: After the intervention, students began to adopt new behaviors such as changing passwords regularly, checking personal photo tags, and being more selective in sharing personal information on social media.

Table 8. Student Participation (Pre vs Post Peer Teaching)

Activity Categories	Before Peer Teaching (%)	After Peer Teaching (%)
Discussion Participation	30	82
Courage to Express Opinions	25	78
Collaboration Between Students	40	85
Digital Security Awareness	35	88

Visual Interpretation: The highest increase occurred in the aspect discussion *participation* (up 52%) and digital *security awareness* (up 53%). This shows that peer teaching

not only increases understanding but also encourages positive behavioral changes in students in the context of digital literacy.

c. Documentation

Documentation in the form of activity photos, digital trail audit results (before and after), and student reflection notes shows real changes in behavior. For example, 11 of the 15 students in the experimental group deleted or restricted access to personal posts after a learning session on digital *footprint*.

5. Qualitative Analysis of Students' Digital Behavior

Student reflections showed that before the activity, many did not understand the concept of a "permanent digital footprint." After the intervention, the majority of students understood that online activities leave a footprint that can impact their reputation. Some students also said they have started using additional security features such as two-step verification and changing passwords regularly.

Table 9. Qualitative Analysis of Students' Digital Behavior Based on Self-Reflection

No	Aspects of Digital Behavior Analyzed	Indicator of Change	Number of Students (n=30)	Percentage (%)	Information
1	Digital Risk Awareness	Able to mention at least 3 forms of digital threats (phishing, hacking, oversharing, malware)	25 students	83,3%	There was a significant increase in awareness; before the activity, only 8 students (26.7%) were able to name more than two digital threats.
2	Understanding Permanent Digital Footprints	Recognizing that online activities leave a digital footprint and impact reputation	27 students	90,0%	Previously, only 10 students (33.3%) understood this concept. After peer teaching, almost all students understood that digital data is permanent.
3	Implementation of Privacy Settings	Start implementing privacy settings on social media (limiting profile access, changing passwords, etc.)	22 students	73,3%	Before the intervention, only 9 students (30%) had managed their social media privacy. This represents a 43.3% increase.
4	Use of Additional Security Features	Enable two-step verification / double	18 students	60,0%	Actual behavioral improvements in account security.

No	Aspects of Digital Behavior Analyzed	Indicator of Change	Number of Students (n=30)	Percentage (%)	Information
		authentication			
5	Digital Social Concern	Expressing a desire to remind or help friends maintain digital security	21 students	70,0%	Indications of growing digital social responsibility in peer groups.
6	Self-Reflection on Online Activities	Mention changes in habits in sharing personal content (more selective and careful)	23 students	76,7%	Students demonstrate reflective awareness of the impact of online posts and comments.

Table 10. Students' Digital Behavior (Pre vs. Post Peer Teaching)

Behavioral Aspects	Before Peer Teaching (%)	After Peer Teaching (%)	Increase (%)	Information
Digital Risk Awareness	26,7	83,3	+56,6	Risk understanding has increased dramatically
Understanding Digital Footprint	33,3	90,0	+56,7	Almost all students understand the permanent nature of digital data.
Privacy Settings	30,0	73,3	+43,3	More students are starting to secure personal accounts
Use of Security Features	20,0	60,0	+40,0	There is real implementation in

Behavioral Aspects	Before Peer Teaching (%)	After Peer Teaching (%)	Increase (%)	Information
				account security
Digital Social Concern	25,0	70,0	+45,0	The value of digital cooperation is formed
Online Self-Reflection	30,0	76,7	+46,7	Students start to think critically before sharing content.

Table 11. Changes in Students' Digital Behavior

Aspects of Digital Behavior	For (%)	Post (%)
Risk Awareness	26.7	83.3
Understanding Digital Footprint	33.3	90.0
Privacy Settings	30.0	73.3
Additional Security Features	20.0	60.0
Social Concern	25.0	70.0
Online Self-Reflection	30.0	76.7

Based on the content analysis of the student reflection sheets, it can be concluded that:

1. Sharply Increased Risk Awareness: Before the program, most students were unaware of digital dangers such as data theft or social engineering (*social engineering*). After peer teaching, more than 80% of students were able to name and explain various digital threats.
2. Understanding the Concept of a Permanent Digital Footprint: Peer teaching effectively changes students' perceptions of the virtual world. Students begin to realize that every online activity leaves a digital footprint that can be re-accessed and impacts their personal reputation.
3. Real Behavior Change: More than two-thirds of students started managing social media account privacy, changing passwords regularly, and enabling two-step verification.
4. Digital Social Awareness: Students not only practice safe behavior for themselves, but also encourage others to be more careful, demonstrating the formation of a collective digital literacy culture in the classroom.
5. Reflection and Digital Ethics: Many students are starting to think twice before sharing personal information, photos, or opinions on social media, demonstrating progress in digital ethics awareness.

4. DISCUSSION

1. The Effectiveness of Peer Teaching on Understanding Digital Security

The results of the study show that the approach significantly improved students' knowledge of digital security. The 27.3% increase in knowledge scores demonstrates that this

method is able to stimulate active learning and enhance students' ability to absorb information. This aligns with Vygotsky's social constructivism theory, which emphasizes that effective learning occurs when individuals interact socially and construct shared meaning. In this context, *peer teachers* Act as *more knowledgeable peers who* help other students build new understanding through dialogue and exploration of real cases. This finding supports the research results of Anggorowati (2011), which states that peer *teaching creates* a more equal learning climate and reduces psychological barriers between teachers and students.

2. The **Influence** of Peer Teaching on Digital Footprint Management

Significant improvements were also seen in the aspect of digital footprint management, with a gain score average of 1.38 points. Students not only understand the concept of a digital footpr*int, but also apply it practically by deleting old posts and managing account privacy. This shows that peer teaching is effective not only in the cognitive (knowledge) domain, but also in the affective and psychomotor domains. Students who act as peer educators have social influence on their peers; they become behavioral models that are easy to imitate and trust.*

*In conventional learning, teachers usually convey normative messages without any room for personal discussion. In contrast, through peer teaching, students can share personal experienc*es about digital mistakes and learn from real-life examples relevant to their lives.

3. Dynamics of Interaction and Active Participation

Observations showed that students in the experimental group participated more actively than those in the control group. The number of reflective questions and statements raised during the discussion more than doubled. This phenomenon suggests that peer teaching catalyzes social participation. Horizontal relationships between students create a sense of security in expressing opinions without fear of being wrong. Thus, the learning process is not only a means of transferring information but also a means of internalizing values and forming digital awareness. According to Sudjatmiko (2020), the success of peer teaching lies in the emotional closeness between instructor and participant. This closeness bridges differences in perception and facilitates the delivery of sensitive messages such as cybersecurity and digital privacy.

4. Real Changes in Attitude and Behavior

Analysis of the attitude questionnaire showed an average increase of 1.34 points in the experimental *group*. This change was followed by concrete behaviors identified in interviews and digital footprint audits. Students began practicing concrete steps such as:

- Enable two-factor authentication on social media accounts
- Do not upload excessive personal information
- Delete old, irrelevant comments or photos
- Limiting friendships with unknown accounts

5. CONCLUSION

Approach *Peer Teaching has proven* to be effective in increasing junior high school students' understanding of digital security, with an increase in knowledge scores of 27.3% effect size (Cohen's d = 1.12).

Students in the experimental group showed real behavioral changes in digital footprint management, such as privacy settings and use of two-factor authentication.

Peer-based learning creates a collaborative learning environment that increases courage, participation, and digital awareness.

Peer teaching can be an alternative model for digital security socialization that is adaptive, contextual, and relevant to the characteristics of the digital-native generation.

6. SUGGESTION

For Schools: Integrate Peer Teaching as part of the secondary school digital literacy program, particularly in ICT or PPKn subjects.

For Teachers: Act as facilitators and mentors for peer educator training to ensure activities remain focused and based on digital ethical values.
For the Government and Education Office: Policy support and regular training are needed to strengthen digital security competencies among teachers and students.
For Future Researchers: Long-term research is recommended to assess students' retention of digital security knowledge and behavior after several months of intervention.

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