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FOSTERING EFFECTIVE LEARNING HABITS THROUGH INTERNET GUIDANCE AT SMP NEGERI 25 SURAKARTA

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ABSTRACT

This community service program addressed the need to improve high school students' digital literacy and promote responsible internet use. Implemented by three lecturers and four undergraduate students from the D4 Media Production Study Program at Politeknik Indonusa Surakarta, the program involved 31 participants, slightly exceeding the target. The activities were structured in three stages: assessing baseline digital literacy and providing interactive learning on constructive internet use; guiding practical exercises in exploring and applying online resources for independent study; and facilitating reflection sessions to consolidate learning and plan follow-up actions. Pre- and post-assessments showed a substantial increase in comprehension, with high-level scores rising from 19.4% to 64.5%, and marked improvement in attitudes toward productive digital engagement. Observations indicated that students gained confidence in accessing reliable information, collaborating in group tasks, and incorporating digital tools into their learning routines. The results demonstrate that structured, participatory approaches effectively foster knowledge acquisition, positive behavioral changes, and self-directed learning, emphasizing the value of school-community collaboration in equipping adolescents with the skills to navigate digital environments responsibly.

Keywords: digital engagement, digital literacy, independent learning, participatory learning, reflection

1. INTRODUCTION

The rapid advancement of information and communication technology (ICT) over the past decade has fundamentally transformed how individuals access, process, and disseminate information. Data from the *Digital 2024 Global Overview Report* indicate that 64.4% of the global population are active internet users, with adolescents emerging as one of the most intensive consumers of digital content (Kemp, 2024). This phenomenon reflects a significant shift in learning behaviors, as digital devices increasingly dominate students' daily routines and gradually replace traditional learning practices (Chemnad et al., 2023; Susanto, Deawati, et al., 2025). While this transformation creates opportunities to foster educational innovation, many adolescents continue to encounter difficulties in using digital media responsibly and purposefully.

In contemporary education, student success is no longer confined to academic performance. Competencies such as critical thinking, digital communication, and ethical awareness in media use are now considered essential (Amin et al., 2023; Fadhilah et al., 2022). Digital literacy extends beyond the technical operation of devices; it requires the capacity to analyze how media messages are constructed, evaluate the reliability of online information, and understand the broader social consequences of digital

behavior. Without adequate support, adolescents risk developing patterns of passive media consumption and becoming vulnerable to misinformation, cyberbullying, or problematic internet use (Chemnad et al., 2023; Susanto, Mulyanto, et al., 2025). These risks highlight the urgency of cultivating responsible and critical digital engagement among young learners.

Addressing these challenges requires strategic interventions at the community level, particularly in schools where adolescents spend much of their time. Efforts to introduce digital literacy at the junior high school level are in line with the Sustainable Development Goal (SDG) 4, especially target 4.4, which emphasizes the importance of equipping young people with relevant skills for life and work. Early integration of digital literacy programs is not only a response to global trends but also a practical step toward preparing an informed, capable, and socially responsible generation (Japar et al., 2023; Listiana et al., 2025).

Empirical evidence supports the effectiveness of structured digital literacy initiatives, as various studies consistently demonstrate their positive influence on students' skills and attitudes. School-based media literacy programs, when implemented in a systematic and sustained manner, have been shown not only to improve students' technical competence in operating digital tools but also to foster a deeper sense of social responsibility in their media use, enabling them to critically evaluate and ethically engage with digital content (Bruckhaus et al., 2024). Furthermore, when students are actively involved in the creation of digital learning content, such as producing videos, designing interactive modules, or contributing to collaborative online projects, their motivation to learn tends to increase significantly, and they also develop stronger collaborative skills through peer interaction and shared problem-solving processes (Mena-Guacas et al., 2023). On the other hand, environments where such structured guidance is absent often leave adolescents without the necessary critical framework to navigate digital spaces, leading to patterns of uncritical information use, susceptibility to misinformation, and a tendency to rely heavily on entertainment-oriented platforms that may not contribute meaningfully to their educational growth or personal development (Cho et al., 2024).

The situation observed at SMP Negeri 25 Surakarta illustrates these global patterns within a local context. During the second semester of the 2023/2024 academic year, more than 90% of students reported having access to the internet through personal devices. However, the majority used this access primarily for social media interaction and online gaming rather than educational purposes. Teachers of ICT and Bahasa Indonesia noted that both educators and students often lack structured strategies for purposeful engagement with digital media (Maesarah et al., 2024; Widhanarto et al., 2024). This condition reflects an absence of systematic digital guidance that limits students' ability to develop critical thinking and independent content creation skills.

In response, a community service program was initiated to promote digital literacy and cultivate productive learning habits among students. The program was structured into three stages: (1) interactive literacy sessions utilizing audiovisual materials and hands-on simulations to foster critical information-seeking skills, (2) reflective discussions to enhance awareness of ethical standards in digital behavior, and (3) creative workshops enabling students to produce educational content such as infographics and short videos, which were subsequently showcased on school platforms. Teachers were also involved to ensure knowledge transfer and sustainability of the program. Through this initiative, the school community is empowered not only to address immediate challenges in digital media use but also to contribute to broader educational goals of nurturing digitally literate and socially responsible learners. The outcomes of this program further affirm the importance of school–community partnerships in preparing adolescents to navigate digital environments in ways that are critical, ethical, and productive.

2. METHOD OF IMPLEMENTATION

2.1 Location and Time

The community service activity was conducted at SMP Negeri 25 Surakarta, located at Jalan Dr. Muwardi No. 36, Penumpung, Laweyan District, Surakarta City, Central Java Province. The activity took place on Monday, January 20, 2025, from 12:20 to 13:40 Western Indonesian Time (WIB). This location was selected due to its representativeness and the full support provided by the school administration to implement a program aimed at fostering a culture of productive learning through the appropriate use of internet media.

2.2 Target Participants

The primary target of this activity consisted of seventh and eighth-grade students at SMP Negeri 25 Surakarta, with a total of 30 participants. The selection of this target group was carefully determined based on the need to enhance students' understanding and awareness of productive and responsible internet media use within the learning process. This consideration was particularly important because students at this stage of schooling are entering a critical phase of adolescence, a period in which they tend to become highly active users of digital media and are significantly influenced by the content they consume. Without proper direction, their engagement with digital platforms could easily be dominated by entertainment and social interactions rather than supporting academic growth. Therefore, guided support was considered essential to ensure that their internet use contributes positively to educational outcomes. By focusing on this age group, the program sought to build early awareness and gradually instill habits that could encourage the development of a positive learning culture. Such culture is expected to be adaptive to the rapid advancement of information technology while simultaneously fostering responsible digital behavior that aligns with their developmental needs (Nurjanah et al., 2024; Setiyadi & Hersulastuti, 2020).

2.3 Implementation Method

The implementation method employed a combination of educational counseling and interactive discussion. The counseling material was delivered through a presentation enriched with short videos visualizing the negative impacts of uncontrolled internet media use, as well as the positive potential of internet utilization to support learning activities. The objective of this material delivery was to educate students on the importance of using internet media productively and purposefully.

Following the presentation, the activity continued with a question-and-answer session and group discussions, providing participants with opportunities to actively engage by expressing opinions and directly posing questions to the facilitators. The discussions emphasized the development of critical attitudes toward digital content and the cultivation of ethical values and responsibility in internet media use. Additionally, students participated in case study simulations designed to hone their critical evaluation skills and decision-making abilities when selecting appropriate online learning resources, thereby supporting a productive, self-directed learning process.

2.4 Success Indicators

The success of the activity was measured using several key indicators: active participation during the Q&A and discussion sessions, measurable improvement in understanding as evidenced by comparisons between pre-test and post-test results, and positive shifts in participants' attitudes toward productive and responsible internet media use. These indicators were designed to assess not only the cognitive aspects but also the affective and behavioral dimensions of the participants during and after the activity.

2.5 Evaluation Method

Evaluation of success was conducted using pre-test and post-test questionnaires filled out by participants before and after the counseling sessions. Comparative analysis of the pre-test and post-test results served as the main benchmark for assessing the increase in participants' understanding of the material delivered. Additionally, qualitative evaluation was performed through direct observation during discussions and simulations, aimed at assessing participant engagement and the effectiveness of the teaching methods. Written reflections completed by participants were also used as evaluation material to gauge the depth of their understanding and readiness to apply productive internet media use in their daily learning activities.

3. RESULTS AND DISCUSSIONS

The community service program was implemented by a team consisting of three lecturers and four students from the D4 Media Production Study Program at Politeknik Indonusa Surakarta. The primary goal of this initiative was to enhance the digital literacy skills of high school students through an educational approach that emphasizes hands-on experience. Digital literacy is widely recognized as an essential competence in the digital age, especially as the internet increasingly serves not only entertainment but also as a transformative learning medium (Maesarah et al., 2024; Rahayu et al., 2022). A total of 31 students participated in this program, slightly exceeding the initial target of 30 participants. The higher-than-expected attendance demonstrates both the relevance of the program to students' needs and their enthusiasm to engage in structured learning activities related to digital media. This condition also indicates the urgency of providing continuous guidance in digital literacy, as demand from students is evidently strong. The program was designed and implemented through a series of stages, reflecting a progressive learning model that moves from foundational understanding to independent application, as elaborated in the following sections.

3.1 Strengthening Digital Literacy: Students' Initial Perceptions and Awareness

The first stage aimed to reinforce the participants' understanding of digital literacy, particularly in the context of constructive internet use. At this stage, the facilitator team emphasized the importance of identifying how digital platforms could be applied to support learning rather than being limited to recreational purposes. To capture the students' initial level of comprehension, a preliminary assessment was conducted using a structured pre-test instrument. This activity provided an overview of how well students understood the role of the internet in education before the program was delivered.

The pre-test required students to respond to several questions related to the function of the internet as a medium for accessing credible information, supporting classroom assignments, and facilitating independent learning. Through this process, the team was able to map students' baseline knowledge in a systematic manner. The results indicated that the majority of students showed limited awareness regarding the educational use of digital media. This was reflected in the large proportion of scores falling within the low comprehension category. The outcome suggested that, prior to the intervention, many students had not yet developed the ability to distinguish between entertainment-oriented internet use and its potential for academic purposes.



Figure 1. Presentation of Materials

The team facilitated an interactive session utilizing visual media, guided discussions, and educational videos related to responsible internet use and information literacy. Following the session, a post-test using the same instrument was administered. The comparative results are presented in Table 1.

Table 1. Participants' Understanding of Internet Use Before and After the Activity (N=31)

Comprehension Level	Pre-Test (N, %)	Post-Test (N, %)	Change (N, %)
Low (<50)	15 (48.4%)	3 (9.7%)	-12 (-38.7%)
Moderate (50–74)	10 (32.3%)	8 (25.8%)	-2 (-6.5%)
High (≥75)	6 (19.4%)	20 (64.5%)	+14 (+45.2%)

The substantial increase in the number of students categorized under high comprehension clearly illustrated the effectiveness of the communication strategies and participatory learning approach that were applied during the program. This outcome not only highlighted the success of the methods used but also provided concrete evidence that the interventions had a direct impact on improving students' digital literacy. Such a result is consistent with previous studies emphasizing that participatory methods in digital education tend to generate more meaningful learning outcomes compared to conventional, lecture-based instructional techniques (Maesarah et al., 2024; Nurdyanti et al., 2025). The alignment between the current findings and those of earlier research further reinforces the validity and relevance of adopting participatory approaches in digital learning contexts.

3.2 Practical Application: Utilizing Digital Media for Self-Directed Learning

The second activity was aimed at strengthening students' practical skills in making use of digital media for learning. In this stage, the facilitators did not simply introduce digital platforms but also guided students to actively explore them within a structured process. The session was arranged so that students could experience first-hand how online resources may be used in academic contexts. To encourage deeper involvement, participants were divided into groups and asked to examine the materials provided through these platforms more carefully. Each group then had the task of preparing a short presentation that summarized their findings and completing quizzes designed to test their understanding. This collaborative approach allowed students to practice searching, selecting, and applying information in a more purposeful way, while the emphasis on credible sources ensured that the knowledge gained was both accurate and relevant for their studies.



Figure 2. Reinforcement of Materials and Practice

The student facilitators provided assistance on evaluating information credibility, conducting effective online searches, and applying digital ethics. The participants' attitudes toward using the internet as a learning tool were assessed through questionnaires administered before and after the activity. The results are summarized in Table 2.

Table 2. Participants' Attitudes Toward Internet Use in Learning (N=31)

Attitude Category	Before Activity (N, %)	After Activity (N, %)	Change (N, %)
Neutral/ Disinterested	18 (58.1%)	5 (16.1%)	-13 (-41.9%)
Interested and Active	9 (29.0%)	17 (54.8%)	+8 (+25.8%)
Highly Interested/ Supportive	4 (12.9%)	9 (29.0%)	+5 (+16.1%)

These findings suggest a significant and encouraging positive shift in students' attitudes toward utilizing the internet in more productive and constructive ways, particularly in relation to their learning activities. The change is not only reflected in the increased willingness of students to engage with digital platforms but also in their growing awareness of the internet's potential beyond mere entertainment. Such a transformation indicates that students have begun to perceive digital resources as valuable tools that can support their academic development and foster independent learning. The observed shift also demonstrates that structured and well-guided digital exploration can encourage learners to gradually build autonomy in managing their own educational activities. This result is consistent with previous research, which has shown that engaging learners in digital exploration fosters not only skill acquisition but also positive behavioral changes and learning autonomy (Mujtahidin et al., 2025; Prasetyo, 2021).

3.3 Reflection and Follow-Up Action Planning

The third activity was carried out as a structured reflection stage designed to reinforce the learning outcomes and to shape concrete strategies for follow-up actions. At this point, students were invited to revisit their experiences throughout the program and to evaluate, in a more personal and systematic way, the knowledge and skills they had acquired. The reflection process was intended not only as a summary of the program but also as an important step in helping students develop awareness of how digital resources can be integrated meaningfully into their daily study practices. In this way, the activity functioned as a bridge between short-term learning achievements and the establishment of long-term habits of responsible digital engagement.

To support this process, the facilitator team organized small group discussions that encouraged students to share their insights, exchange perspectives, and articulate challenges they might face in applying digital media to their learning. Within these groups, participants worked together to identify digital resources that could be adapted to their needs, while also drafting study schedules and learning targets that were realistic and achievable. The presence of student facilitators played a crucial role in fostering a collaborative environment, as they helped guide the discussions and offered practical suggestions. This setting allowed participants to feel more comfortable in expressing their views and provided them with tangible examples of how digital tools could be incorporated into their everyday learning routines. The results from this stage revealed a strong sense of enthusiasm among students in applying digital resources to support their academic development. This response suggests that the reflection stage succeeded in motivating students to reconsider their previous patterns of digital use and to approach technology in a more purposeful and constructive way. Thus, the reflection served a dual function: on the one hand, it acted as an evaluation mechanism to assess the effectiveness of the program; on the other hand, it functioned as a catalyst to encourage the formation of sustainable habits in self-directed learning supported by digital resources. This dual role underscores the importance of reflection in ensuring that the outcomes of such initiatives continue to have an impact beyond the duration of the formal program (Putra & Budiningsih, 2023; Rini et al., 2022).

3.4 Measuring Success and Evaluating Program Impact

The effectiveness of the activity was assessed using three key indicators: enhancement of knowledge, positive shifts in attitudes, and changes in behavior related to digital media use. A comparison of pre- and post-activity data demonstrated notable improvements in all three dimensions. Complementing these findings, qualitative observations highlighted that students appeared more confident in exploring educational materials and displayed stronger initiative in accessing credible online information.

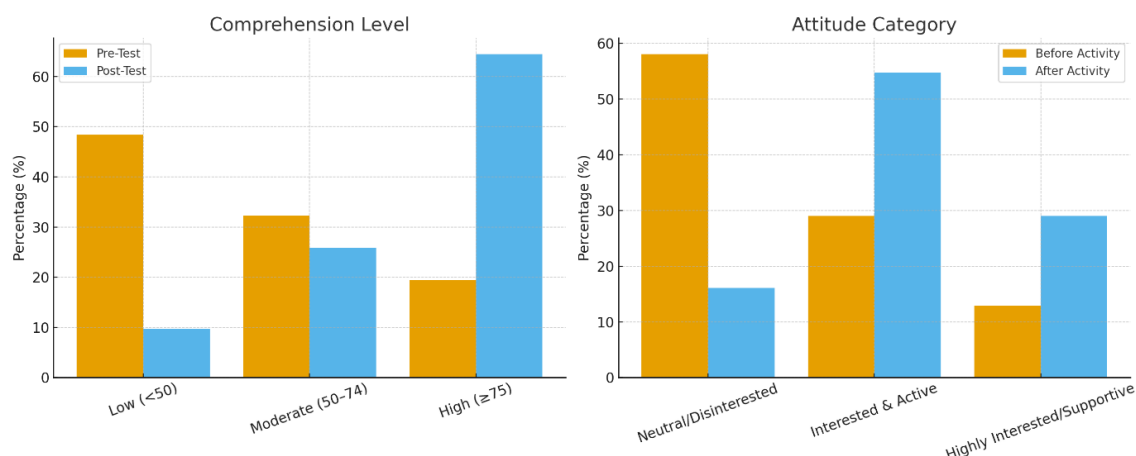


Figure 3. Changes in Comprehension and Attitude Before and After Intervention

The facilitator team, comprising one lecturer and four undergraduate students, played an important role in shaping a collaborative and youth-oriented learning atmosphere. The participation of student facilitators as near-peer role models proved instrumental in minimizing hierarchical gaps, thus enabling open and relatable interactions with participants. In addition, the program was carefully structured around experiential and participatory learning methods, reflecting widely recognized practices in digital and media literacy education. The outcomes generated through this initiative offer empirical support for the significance of school–community partnerships in equipping adolescents with the skills needed to navigate digital platforms responsibly and effectively (Rashid & Asghar, 2016; van Leeuwen & Janssen, 2019).

4. CONCLUSION

The community service program to enhance digital literacy successfully achieved its objectives, as reflected in significant improvements in students' comprehension, attitudes, and behavior toward digital media use. A total of 31 students participated, slightly exceeding the target, which indicates the strong relevance of the program and students' enthusiasm to engage in structured digital learning. The activities, ranging from interactive sessions and practical applications to reflection and mentoring, fostered greater confidence, critical awareness, and initiative among participants in utilizing credible online resources.

The active role of lecturers and student facilitators created a collaborative and youth-centered environment that encouraged open dialogue and minimized hierarchical barriers, thereby strengthening learning outcomes. These results affirm that participatory and experiential approaches are effective in cultivating responsible and productive digital engagement. Sustaining such initiatives through continuous mentoring and school–community partnerships is essential to prepare adolescents with the competencies required to navigate the digital era ethically and effectively.

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6. REFERENCES

- Amin, A. M., Adiansyah, R., & Hujjatusnaini, N. (2023). The Contribution of Communication and Digital Literacy Skills to Critical Thinking. *Jurnal Pendidikan Sains Indonesia*, 11(3), 697–712. <https://doi.org/10.24815/JPSI.V11I3.30838>
- Bruckhaus, A. A., Bennett, A., Brawer-Cohen, M., Sinclair, M., Ramirez-De La Cruz, G., Ragusa, G., & Duncan, D. (2024). Evaluation of students' digital literacy through an immersive university-high school collaboration. *Frontiers in Education*, 9, 1429893. <https://doi.org/10.3389/FEDUC.2024.1429893/BIBTEX>

- Chemnad, K., Aziz, M., Abdelmoneium, A. O., Al-Harashsheh, S., Baghdady, A., Al Motawaa, F. Y., Alsayed Hassan, D., & Ali, R. (2023). Adolescents' Internet addiction: Does it all begin with their environment? *Child and Adolescent Psychiatry and Mental Health*, 17(1), 1–14. <https://doi.org/10.1186/S13034-023-00626-7/TABLES/14>
- Cho, H., Cannon, J., Lopez, R., & Li, W. (2024). Social media literacy: A conceptual framework. *New Media & Society*, 26(2), 941–960. <https://doi.org/10.1177/14614448211068530>
- Fadhilah, M. N., Maryanti, R., Wulandary, V., Irawan, A. R., Abdimas, J., & Wijayakusuma, K. (2022). The Effect of Digital Literacy on Social Media Ethics. *Jurnal Abdimas Kartika Wijayakusuma*, 3(1), 44–52. <https://doi.org/10.26874/JAKW.V3I1.121>
- Japar, M., Hermanto, H., Muyaroah, S., Susila, H. R., & Alfani, H. (2023). Digital Literacy-Based Multicultural Education through Civic Education in Indonesian Junior High Schools. *Journal of Social Studies Education Research*, 14(4), 328–349. <https://jsser.org/index.php/jsser/article/view/5281>
- Kemp, S. (2024). *Digital 2024: Global Overview Report*. DataReportal: Global Digital Insights. https://datareportal.com/reports/digital-2024-global-overview-report?utm_source=chatgpt.com
- Listiana, L., Dyah, V., & Sari, A. (2025). Assessing digital literacy levels and challenges among junior high school students in Yogyakarta. *Journal of English in Academic and Professional Communication*, 11(2), 103–120. <https://doi.org/10.25047/JEAPCO.V11I2.5788>
- Maesarah, A., Nashoiul Ibad, M., & Saelaemae, T. (2024). Strengthening Digital Literacy in Online Time Management among Senior High School Students. *Jurnal Al Maesarah*, 3(2), 105–115. <https://doi.org/10.58988/JAM.V3I2.385>
- Mena-Guacas, A. F., Meza-Morales, J. A., Fernández, E., & López-Meneses, E. (2023). Digital Collaboration in Higher Education: A Study of Digital Skills and Collaborative Attitudes in Students from Diverse Universities. *Education Sciences 2024, Vol. 14, Page 36*, 14(1), 36. <https://doi.org/10.3390/EDUCSCI14010036>
- Mujtahidin, M., Wahjoedi, W., Wiyono, S., Atok, R. Al, & Blažić, M. M. (2025). The influence of blended learning models and internet self-efficacy on digital citizenship attitudes of elementary school students in Indonesia. *Psychological Science and Education*, 30(3), 47–58. <https://doi.org/10.17759/PSE.2025300304>
- Nurdiyanti, N., Anisa, A., & Ananthakkarasu, V. (2025). Digital Literacy of Senior High School Science Students: A Case Study of Technology Use in Daily Academic Life. *JPPS (Jurnal Penelitian Pendidikan Sains)*, 14(2), 173–184. <https://doi.org/10.26740/JPPS.V14N2.P173-184>
- Nurjanah, N., Abdulkarim, A., Komalasari, K., Bestari, P., & Suwandi, M. A. (2024). Critical literacy of young citizens in the digital era. *Jurnal Civics: Media Kajian Kewarganegaraan*, 21(2), 352–358. <https://doi.org/10.21831/JC.V21I2.70232>
- Prasetyo, D. E. (2021). Students' attitudes toward the internet usage for learning. *EnJourMe (English Journal of Merdeka) : Culture, Language, and Teaching of English*, 6(2), 126–132. <https://doi.org/10.26905/ENJOURME.V6I2.6583>
- Putra, G. A., & Budiningsih, T. E. (2023). Independent Learning in the Digital Era, The Relationship of Digital Literacy with Self-Directed Learning in High School Students. *Educational Psychology Journal*, 12(1), 22–31. <https://doi.org/10.15294/EPJ.V12I1.10019>
- Rahayu, S., Isnaeni, W., & Masturi, M. (2022). Critical Thinking Skills and Digital Literacy of High School Students in Science Learning Using E-Learning with STEM Vision. *Journal of Innovative Science Education*, 11(3), 347–361. <https://doi.org/10.15294/JISE.V11I1.57281>
- Rashid, T., & Asghar, H. M. (2016). Technology use, self-directed learning, student engagement and academic performance: Examining the interrelations. *Computers in Human Behavior*, 63, 604–612. <https://doi.org/10.1016/J.CHB.2016.05.084>

- Rini, R., Mujiyati, Sukamto, I., & Hariri, H. (2022). The Effect of Self-Directed Learning on Students' Digital Literacy Levels in Online Learning. *International Journal of Instruction*, 15(3), 329–344. <https://e-iji.net/ats/index.php/pub/article/view/323>
- Setiyadi, D. B. P., & Hersulastuti. (2020). How Indonesian Junior High School Students Comprehend the Reading Text? A Digital Media Literacy Utilization. *IJAR – International Journal of Action Research*, 16(2), 153–172. <https://doi.org/10.3224/IJAR.V16I2.05>
- Susanto, A., Deawati, M., Damayanti, D. R., Maulana, G. A., Luisa, N., & Husni, T. Z. (2025). Penguatan Literasi Privasi Digital Melalui Penyuluhan Interaktif Di SMP Negeri 10 Surakarta. *Bengawan: Jurnal Pengabdian Masyarakat*, 5(1), 17–25.
- Susanto, A., Mulyanto, D., Fahrezi, F. D., Savitri, U., Kasianingrum, A., & Rahmadhani, A. (2025). Membangun Kebiasaan Sehat dalam Penggunaan Teknologi Komunikasi bagi Siswa melalui Digital Detox. *Jurnal Edukasi Pengabdian Masyarakat*, 4(2), 189–197. <https://doi.org/10.36636/EDUABDIMAS.V4I2.6655>
- van Leeuwen, A., & Janssen, J. (2019). A systematic review of teacher guidance during collaborative learning in primary and secondary education. *Educational Research Review*, 27, 71–89. <https://doi.org/10.1016/J.EDUREV.2019.02.001>
- Widhanarto, G. P., Prihatin, T., & Kusumawardani, S. (2024). Social media learning strategies, teachers' digital competencies and online learning quality: A correlational study. *Jurnal Inovasi Teknologi Pendidikan*, 11(3), 299–309. <https://doi.org/10.21831/JITP.V11I3.73020>