

Social Media Use Intensity and Communication Literacy Among Education Administration Students toward SDG 4

Novriyanti Achyar*, Anisah, Sari febrianti, Singgih Ginanjar

Universitas Negeri Padang, Padang, Indonesia



DOI : <https://doi.org/10.63230/jocsis.3.3.195>

Sections Info

Article history:

Submitted: March 3, 2026

Final Revised: May 29, 2026

Accepted: July 3, 2026

First Available Online: July 6, 2026

Publication Date: September 27, 2027

Keywords:

Communication Literacy;

Educational Administration;

Higher Education;

Social Media Usage;

Student Communication Skills.

ABSTRACT

Objective: To examine the relationship between social media usage intensity and communication literacy skills among students in the Educational Administration Department. Specifically, this study investigated whether the frequency and intensity of social media use contribute to the development of students' communication literacy skills and explored the potential role of social media as a learning-supporting tool in higher education contexts. **Method:** The study employed a quantitative research approach using a survey method. The research was conducted among students of the Educational Administration Department at Padang State University, Indonesia. The research sample consisted of 121 students selected randomly from a population of 623 registered students. Data were collected using questionnaires designed to measure two variables: the intensity of social media usage and students' communication literacy skills. The collected data were analyzed using Pearson correlation analysis to determine the relationship between social media usage intensity and communication literacy skills.

Results: The findings revealed a significant positive correlation between social media usage intensity and students' communication literacy skills. Pearson correlation analysis showed a correlation coefficient value of 0.442 with a significance value of 0.003 ($p < 0.05$), indicating that students with higher levels of social media engagement tend to demonstrate better communication literacy skills. These results suggest that social media can serve as an effective medium for developing communication abilities when utilized appropriately and purposefully within educational environments. **Novelty:** The study contributes to the understanding of social media utilization in higher education by providing empirical evidence regarding its relationship with students' communication literacy development. The findings provide implications for educational institutions in designing strategies to promote responsible and productive social media use to enhance students' literacy skills.

INTRODUCTION

Communication is a fundamental element in human life. Communication as a skill plays an important role in various aspects (Jeraassawapong, 2019). Communication activities range from the exchange of information to relationship building and conflict resolution. Through communication, individuals can share ideas, express emotions, and form strong social bonds (Achyar et al., 2019). Effective communication is very important for building healthy relationships and supporting interpersonal relations within families, friendships, and professional environments (Leiss et al., 2013). Good communication allows for a deeper understanding and honesty in interpersonal relationships, strengthening the existing connections. Moreover, communication is also key in resolving conflicts. Open and constructive communication allows the parties involved in the conflict to engage in dialogue and find a joint solution (Brogi et al., 2013; Yuniarti et al., 2020). In other words, effective communication not only facilitates problem-solving but also supports the harmonization of relationships in various contexts.

Communication techniques evolve in line with the rapid development of information technology. Higher education students often use social media to communicate, access information, and interact with each other. Social media offers significant benefits, such as

improving access to information and building extensive social networks (Flavián & Guinalíu, 2005). However, high usage intensity can complexly affect students' communication literacy skills. This phenomenon is relevant to study, especially for students majoring in Educational Administration, because communication skills are an important competency for those who will pursue a career in this field. Social media can enhance access to information and expand networks, but excessive use can also potentially affect face-to-face communication skills (Leiss et al., 2013). Rapid consumption of information through social media can reduce the ability to understand deeper communication contexts (Maulid et al., 2022). Students who use social media intensively may feel that they are becoming more effective in digital communication, but they might experience a decline in the quality of face-to-face interactions (Constantinides, 2014). Good communication skills are necessary in the context of team collaboration and all activities related to education (Escudeiro et al., 2011). Education Administration students, who will work in a professional environment, need strong communication skills to interact with colleagues and other stakeholders. Dependence on social media can make students accustomed to fast-paced communication patterns, which may not align with the interaction needs in a professional environment that demands depth of understanding and attention to detail.

One of the main problems that arises from low communication literacy is the difficulty in conveying and receiving information effectively. The ability to communicate clearly and effectively is very important for students, especially in the context of education. If students cannot master this skill well, they may experience misunderstandings or fail to absorb important information (Constantinides et al., 2008). It is said that ineffective communication can affect students' learning outcomes, which negatively impacts their academic achievements (Sari et al., 2024; Totti & Nuryanto, 2024). The ability to think critically is also closely related to communication literacy. Communication literacy plays an important role in the development of critical thinking skills in higher education. Students with low communication literacy may find it difficult to filter information effectively, which can make them more vulnerable to hoaxes or misinformation. Communication skills play a crucial role in the success of teamwork and collaboration, so a lack of communication skills can create obstacles in group work, thereby reducing team effectiveness (Koller, 2017; Sari et al., 2024). When an Educational Administration student becomes a contributor to the world of education, this becomes something that cannot be overlooked. In addition to academic and social aspects, low communication literacy also affects students' job preparation and career. Good communication skills are an important asset in the workplace, and their absence can hinder someone's career development (Bulu & Tanggur, 2021).

Graduates' employers also have high expectations regarding graduates' communication skills, so students with low communication literacy may struggle to meet those demands (Shpeizer, 2019). Social media offers a platform for students to hone their communication skills. Through social media, students can express ideas, share information, and interact with others (Kusumasondjaja, 2018). Studies show that students who actively use social media tend to have better communication skills, especially in terms of delivering messages effectively and creatively. However, excessive use of social media can reduce face-to-face communication skills, resulting in a decline in interpersonal skills. With a balanced approach, social media can be a useful tool for enhancing students' overall communication skills (Koller, 2017).

Good communication skills play an important role in maximizing the benefits of social media use for students. Students with strong communication skills are able to convey messages clearly and precisely, making them more effective in building personal branding and professional networks (Mayasari et al., 2023). In addition, good communication skills also help students understand social media ethics and manage the content they share. By

developing these skills, students can use social media productively and support their academic and career development in the future. Overall, the development of communication literacy among students is an important step to ensure their academic, social, and professional success. This research aims to present the relationship between the intensity of social media use and the communication skills of students majoring in Educational Administration at Universitas Negeri Padang.

RESEARCH METHOD

Research design

This study employed a quantitative research design using a correlational approach to examine the relationship between social media usage intensity and communication literacy skills among students in the Educational Administration Department at Universitas Negeri Padang, Indonesia. The correlational design was selected because this study aimed to identify the degree of association between two quantitative variables without manipulating the research variables. Specifically, this study investigated whether the intensity of students' social media use was related to their communication literacy skills in a higher education context.

The research was conducted at the Educational Administration Department, Universitas Negeri Padang. The research focused on analyzing students' patterns of social media use, including frequency, duration, and activities performed through social media platforms, as well as their communication literacy skills, which include students' ability to understand, interpret, and communicate information effectively.

The research framework consisted of two main variables: social media usage intensity as the independent variable (X) and communication literacy skills as the dependent variable (Y). The relationship between these variables was analyzed using Pearson Product Moment correlation analysis to determine the strength and direction of the relationship between social media usage intensity and students' communication literacy skills.

Research participants

The participants of this study were undergraduate students enrolled in the Educational Administration Department at Universitas Negeri Padang. The population consisted of 623 students registered in the department. The sample was selected using a purposive sampling technique, in which participants were selected based on their willingness and availability to participate in the study.

A total of 121 students participated in this research by completing an online questionnaire distributed digitally. The selection of students as research participants was considered appropriate because they actively engage with social media platforms and experience digital communication practices in their academic and social environments. The involvement of students from the Educational Administration Department provided relevant information regarding the relationship between social media usage patterns and the development of communication literacy skills among university students.

Research instruments

The research instrument used in this study was a structured digital questionnaire developed to measure social media usage intensity and communication literacy skills among students. The questionnaire consisted of statement items based on indicators related to both research variables.

The measurement of social media usage intensity focused on several aspects, including frequency of use, duration of use, types of social media platforms accessed, and activities performed through social media. Meanwhile, communication literacy skills were measured

based on indicators related to students' ability to obtain, understand, evaluate, and communicate information effectively through digital communication environments. The questionnaire items were arranged using a Likert scale to measure respondents' perceptions and behaviors related to social media usage and communication literacy. Before data analysis, the instrument was evaluated to ensure that the items were appropriate for measuring the intended variables.

Data analysis techniques

Data collection was conducted through an online questionnaire distributed to students of the Educational Administration Department at Universitas Negeri Padang. The collected data were analyzed using descriptive and inferential statistical techniques. Descriptive statistical analysis was conducted using percentage calculations to describe respondent characteristics and the distribution of responses regarding social media usage intensity and communication literacy skills. The percentage analysis was used to provide an overview of students' social media usage patterns, dominant activities performed on social media platforms, and the level of communication literacy skills.

Furthermore, the relationship between social media usage intensity and communication literacy skills was analyzed using Pearson Product Moment correlation analysis. This statistical technique was selected because it is appropriate for examining the linear relationship between two quantitative variables. The significance level was determined at 5% ($p < 0.05$) to evaluate whether the relationship between the variables was statistically significant.

Through these analytical procedures, this study aimed to provide empirical evidence regarding the extent to which social media usage intensity is associated with students' communication literacy skills in higher education. The findings are expected to contribute to a better understanding of the educational potential of social media as a medium for supporting students' digital communication development.

RESULTS AND DISCUSSION

Results

Intensity of social media use

a. Duration of social media use

The data obtained to determine how often students use social media in their daily lives shows results as per Table 1.

Table 1. Data on student social media use

Intensity	F	%
Never	0	0.0
< 1 hour per day	7	5.8
1 - 2 hours per day	22	18.2
3 - 5 hours per day	71	58.7
> 5 hours	21	17.4
N	121	100

The results of the research on the intensity of social media use by students indicate that the majority of respondents spend a significant amount of time on social media every day. Most students, specifically 58.7%, use social media for 3 to 5 hours per day. This duration of use is the most dominant among other categories, indicating that students tend to be intensively engaged in social media activities. As many as 18.2% of students reported using social media for 1 to 2 hours per day. This indicates that some of them still use social media with moderate intensity, although not as much as the main group that uses it for 3 to 5 hours

per day. Meanwhile, 17.4% of students spend more than 5 hours per day on social media, indicating a high level of engagement on these platforms. On the other hand, only 5.8% of respondents use social media for less than 1 hour per day, and no students reported not using social media at all. Overall, this data indicates that social media usage has become an integral part of students' daily lives, with the majority spending a considerable amount of time engaging on various social media platforms. This shows that social media plays an important role in social interaction and information consumption for students, and has become a tool frequently used in their daily routines.

b. Main needs in social media usage

The research results to determine the main needs desired by students when using social media can be seen in Table 2.

Table 2. Data on main needs in social media usage

Intensity	f	%
<i>Academics</i>	11	9.1
Searching for information, joining a study group		
<i>Personal</i>	45	37.2
Entertaining oneself, passing the time		
<i>Social Interaction</i>	22	18.2
Chatting with friends or family		
<i>Information and News</i>	28	23.1
Finding out the latest developments		
<i>Hobbies and Interests</i>	15	12.4
Searching for content related to personal hobbies		
N	121	100

The research results show that the use of social media by students is dominated by activities for personal purposes (37.2%); students use social media to entertain themselves and pass the time. This activity reflects the role of social media as a means of relaxation for students, which aligns with the findings of that state social media has become a primary tool for individuals to cope with stress and find entertainment in their daily lives (Cunningham & Craig, 2019). In addition, the use of social media to obtain information and news also occupies an important position, with (23.1%) of respondents using this platform to keep up with the latest developments. This finding shows that social media is not only a place for social interaction but also a primary source of information, as mentioned by that users often utilize social media to update information on current issues (Kay et al., 2020). Social interaction activities also become an important goal, with (18.2%) of students as respondents using social media to chat with friends or family. Followed by usage for hobbies and personal interests (12.4%), as well as academic needs such as searching for information and joining study groups (9.1%). This data indicates that, although social media has become an important tool for students for various purposes, activities related to entertainment and information are more prominent than academic goals.

Media literacy in social media use

To assess students' ability to use social media intelligently as a non-verbal communication skill, measured through 15 questions. This statement uses the average analysis of the overall results with a percentage formula that is then categorized. The research results can be explained in the Table 3.

Table 3. Media literacy in social media use

No	Dimensions of Literacy	N	f (%)
1	Understanding communication ethics in the use of social media	121	74
2	Considering the impact of what you share on social media on others.	121	55
3	Evaluating the accuracy of information found on social media	121	58
4	Using social media to enhance interpersonal communication skills	121	77
5	Avoiding conflict or responding to conflict constructively on social media	121	82
6	Understanding the meaning or context of the content seen on social media.	121	63
7	Avoiding or reporting false information or misinformation on social media	121	44
8	Verifying the source of information before sharing content on social media	121	54
9	Using clear and unambiguous language when communicating on social media	121	71
10	Using privacy features to control who can see content on social media	121	87
11	Seeking views or opinions from various sources before concluding something from social media	121	41
12	Respecting differing opinions and perspectives on social media	121	66
13	Understanding the feelings or reactions of others towards the shared content	121	63
14	Avoid using language that could potentially offend or hurt others on social media.	121	87
15	Utilizing social media to learn new things that support personal or career development	121	91
	Average		68

Research on social media literacy among students in the Department of Educational Administration shows variation in the aspects of communication literacy they possess. The results show that the majority of students have a good understanding of the use of privacy features, with the highest average score in the aspect of using privacy features to control who can see their content on social media, reaching (87%). This aspect indicates that students are aware of the importance of privacy and control over the content they share, which aligns with the findings of stating that privacy is a key factor in how users, especially young people, manage their identities and relationships on social media (Chen et al., 2024).

In addition to privacy, the ability to avoid using language that could potentially offend or hurt others also shows a high score, namely (87%). This shows that students have a good awareness of the impact of communication on others on social media. According to research conducted by awareness of the impact of communication on social media is very important, as it can influence interpersonal relationships and prevent conflicts (Celik et al., 2021). In terms of utilizing social media for self-development, students also show a high average score, which is (91%). This shows that social media is used as a learning tool that supports their personal and career development. As mentioned by social media has now become an important tool in accessing information for personal development, including in the fields of education and career (Kostić et al., 2022). On the contrary, aspects such as seeking views or

opinions from various sources before drawing conclusions on social media have a lower score, namely 41 points. This shows that some students still do not pay enough attention to diverse perspectives before drawing conclusions. It stated that "social media users tend to form opinions based on limited information, which has the potential to lead to biased decision-making (Collini et al., 2023)."

Lastly, the understanding of communication ethics on social media, which scored (74%), indicates a good level of awareness but can still be improved. Regarding this matter, it is mentioned that "ethics in digital communication must be improved, especially for the younger generation who are active users of social media (Aslan et al., 2023). Overall, students demonstrate relatively good social media literacy skills, with a strong focus on privacy and responsible communication. However, there is room for improvement, especially in evaluating diverse perspectives and gaining a deeper understanding of communication ethics on social media.

Hypothesis testing

The results of the hypothesis testing show a significant positive relationship between the intensity of social media use and media literacy skills among students in the Department of Educational Administration. Based on the Pearson correlation analysis, the obtained correlation value is 0.442 with a significance of 0.003. This value indicates a moderate positive correlation, suggesting that an increase in the intensity of social media use tends to be followed by an increase in media literacy skills among students. The significance value at P Value 0.003 means that the hypothesis stating "there is a relationship between the intensity of social media use and the media literacy skills of students majoring in educational administration is accepted at the 0.05% significance level." This positive correlation indicates that the more frequently students use social media, the higher their ability to understand, analyze, and evaluate the information they find on these platforms. As explained by intensive use of social media can support the development of digital literacy, especially if users are accustomed to accessing and evaluating information critically (Celik et al., 2021).

These results are also in line with the findings of which noted that consistent use of social media can enhance information literacy skills, including aspects of verification and the use of accurate information sources (Cortez et al., 2024; Ernawati et al., 2022; Imjai et al., 2024; Jalinus et al., 2018). Thus, this study shows that there is a correlation between the frequency of social media use and students' media literacy skills, which can impact the way they access and utilize information in academic and everyday life contexts.

Discussion

The findings of this study provide evidence that social media has become an important part of students' daily activities and is closely associated with the development of media literacy skills among students in the Educational Administration Department at Universitas Negeri Padang. The descriptive findings indicate that most students demonstrate a relatively high intensity of social media use, with 58.7% of students spending approximately 3–5 hours per day on social media, followed by 17.4% who use social media for more than 5 hours per day. These findings indicate that social media has become an integral component of students' communication and information consumption patterns. The high level of engagement suggests that social media is no longer merely a recreational platform but has become a digital environment where students interact, exchange information, and construct meaning through online communication.

The high intensity of social media use among students reflects the growing role of digital platforms in supporting social interaction and information accessibility in higher education. Although the majority of students primarily use social media for personal purposes, such as

entertainment and leisure activities (37.2%), a considerable proportion also utilize social media for obtaining information and current developments (23.1%), social interaction (18.2%), hobbies (12.4%), and academic purposes (9.1%). This pattern indicates that students' social media behavior is multidimensional, combining personal, social, informational, and educational functions. Previous studies have emphasized that social media has evolved beyond entertainment purposes and has become an important medium for accessing information, maintaining social relationships, and supporting individual development (Cunningham & Craig, 2019; Kay et al., 2020).

The dominance of entertainment-oriented use suggests that students still perceive social media primarily as a space for relaxation and personal enjoyment. However, the use of social media for information access and self-development demonstrates that students have begun to recognize its educational potential. This finding is important because the impact of social media on students' literacy skills is not solely determined by the amount of time spent online but also by the quality and purpose of their engagement. Students who actively seek information, participate in discussions, and evaluate online content may develop stronger literacy competencies compared with students who use social media only for passive consumption.

The findings regarding students' media literacy skills show that students generally demonstrate good awareness and responsible behavior in using social media, with an overall average score of 68%. The highest indicators were found in students' ability to utilize privacy settings (87%), avoid harmful or offensive language (87%), and use social media for personal and career development (91%). These findings indicate that students possess awareness regarding digital identity management, ethical communication, and the productive use of social media. The high level of privacy awareness suggests that students understand the importance of controlling personal information in digital environments. This finding supports previous research indicating that privacy management is an important aspect of young users' digital identity construction and online relationship management (Chen et al., 2024).

Furthermore, students' ability to avoid offensive communication demonstrates an understanding of digital communication ethics. Social media provides opportunities for rapid interaction, but it also creates potential risks related to misunderstanding, conflict, and inappropriate communication. The high score in this dimension indicates that students are aware that online communication requires consideration of social consequences. This finding is consistent with previous studies emphasizing that digital communication ethics is an essential component of media literacy, particularly among young people who are active users of online platforms (Celik et al., 2021; Aslan et al., 2023).

The results also indicate that students actively utilize social media for self-development, as reflected in the highest literacy indicator score (91%). This suggests that students perceive social media as a valuable source for acquiring knowledge, exploring professional opportunities, and developing personal competencies. In the context of higher education, this finding highlights the potential of social media as an informal learning environment where students can access diverse educational resources beyond conventional classroom settings. Social media can support lifelong learning practices by enabling students to connect with information sources, professional communities, and knowledge networks (Kostić et al., 2022).

However, several aspects of media literacy require further improvement. The lowest score was found in students' ability to seek diverse perspectives before drawing conclusions from social media content (41%). This finding indicates that although students are active users of social media, some students may still have limited critical evaluation skills when encountering digital information. The abundance of information available on social media

increases the risk of selective exposure, misinformation, and biased interpretation. Previous research has highlighted that social media users may develop opinions based on limited information sources, potentially affecting critical decision-making processes (Collini et al., 2023). Therefore, improving students' critical evaluation skills remains an important aspect of media literacy development.

The hypothesis testing results further strengthen these findings by demonstrating a significant positive relationship between social media usage intensity and students' media literacy skills. Pearson Product Moment correlation analysis produced a correlation coefficient of 0.442 with a significance value of 0.003 ($p < 0.05$), indicating a moderate positive relationship between the two variables. This result confirms that students with higher social media usage intensity tend to demonstrate better media literacy skills. The acceptance of the research hypothesis suggests that frequent interaction with digital platforms may contribute to students' ability to understand, analyze, and evaluate information encountered through social media.

The relationship between social media usage intensity and media literacy skills can be explained through digital literacy theory, which emphasizes that literacy skills develop through continuous interaction with digital environments. Regular exposure to social media requires users to interpret messages, evaluate information credibility, communicate effectively, and manage digital identities. Therefore, intensive social media use can provide learning experiences that contribute to the development of media literacy competencies when users engage actively and critically with digital content.

These findings are consistent with previous studies showing that social media engagement can contribute to the improvement of information literacy, particularly in information searching, verification, and evaluation processes (Cortez et al., 2024; Ernawati et al., 2022; Imjai et al., 2024; Jalinus et al., 2018). However, the moderate correlation coefficient ($r = 0.442$) also indicates that social media usage intensity is only one factor influencing media literacy skills. Other factors, such as educational background, digital competence, critical thinking ability, learning environment, and previous technology experiences, may also contribute to students' literacy development.

Overall, this study confirms that social media usage intensity has a meaningful relationship with students' media literacy skills. The findings suggest that social media should not only be viewed as a source of entertainment but also as a potential educational resource that can support students' digital competence development. For higher education institutions, particularly educational administration programs, integrating media literacy education into learning activities is essential to ensure that students are not only active users of social media but also critical, ethical, and responsible digital citizens.

CONCLUSION

Fundamental Finding: This study demonstrates that social media usage intensity is significantly associated with students' media literacy skills in the Educational Administration Department at Universitas Negeri Padang. The findings reveal that social media has become an essential part of students' daily activities, with the majority of students spending 3–5 hours per day using social media platforms. Although social media utilization is predominantly driven by personal purposes, such as entertainment (37.2%) and information seeking (23.1%), students also utilize social media for academic needs, social interaction, and personal development. The findings indicate that students demonstrate a relatively good level of media literacy, particularly in managing privacy settings (87%), avoiding harmful communication (87%), and utilizing social media for personal and career development (91%). However, students still require improvement in evaluating information from multiple perspectives (41%) and strengthening communication ethics in digital

environments. Furthermore, the Pearson Product Moment correlation analysis confirms a significant positive relationship between social media usage intensity and media literacy skills, with a correlation coefficient of 0.442 and a significance value of 0.003 ($p < 0.05$). These findings indicate that higher engagement with social media tends to be associated with better abilities to access, evaluate, and utilize information effectively in academic and everyday contexts. **Implication:** The findings provide empirical evidence that social media can function not only as a communication and entertainment platform but also as a potential medium for developing students' digital and media literacy competencies. Higher education institutions should consider integrating media literacy education into learning activities to encourage students to become critical, ethical, and responsible users of digital platforms. The development of students' communication literacy through social media requires emphasis not only on technical skills but also on critical thinking, information evaluation, digital ethics, and awareness of social contexts. For educational administration students, these competencies are particularly important because communication skills are fundamental for future professional roles involving leadership, organizational management, and public interaction. Therefore, universities should provide learning strategies that promote productive social media use while minimizing risks associated with misinformation, biased perspectives, and ineffective digital communication. **Limitation:** This study has several limitations that should be considered. First, the research was conducted within a single educational context, involving students from the Educational Administration Department at Universitas Negeri Padang; therefore, the findings may not be directly generalized to students from other disciplines, institutions, or educational levels. Second, this study employed a quantitative correlational approach, which identifies relationships between variables but does not explain causal mechanisms regarding how social media usage contributes to the development of media literacy skills. Third, the measurement relied on self-reported questionnaire responses, which may be influenced by participants' perceptions and personal interpretations of their social media behavior and literacy abilities. **Future Research:** Future studies are recommended to involve larger and more diverse samples from various universities and academic disciplines to obtain broader perspectives regarding the relationship between social media usage and media literacy development. Further research may also employ qualitative or mixed-method approaches to explore how students interact with social media platforms and how specific online activities contribute to communication and literacy development. In addition, future studies could examine the influence of different types of social media platforms, patterns of digital engagement, and educational interventions designed to improve students' critical evaluation skills, digital ethics, and responsible communication practices. Research integrating emerging technologies, such as artificial intelligence-based literacy tools and adaptive digital learning environments, may also provide new insights into strengthening media literacy education in higher education contexts.

ACKNOWLEDGEMENTS

The authors would like to express their sincere gratitude to Universitas Negeri Padang for providing support and facilities during the implementation of this research. The authors also extend their appreciation to the students of the Educational Administration Department who participated as respondents and provided valuable information throughout the data collection process. The authors appreciate all individuals who contributed directly or indirectly to the successful completion of this study.

AUTHOR CONTRIBUTIONS

Novriyanti Achyar: Conceptualization, methodology, investigation, data curation, formal analysis, writing original draft preparation, and visualization. **Anisah:** Supervision, validation, writing review and editing, and project administration. **Sari Febrianti:** Conceptualization, methodology, supervision, validation, writing review and editing, and resources. **Singgih Ginanjar:** Data analysis, validation, writing review and editing, and research support.

CONFLICT OF INTEREST STATEMENT

The authors declare no conflicts of interest.

ETHICAL COMPLIANCE STATEMENT

This manuscript complies with research and publication ethics. The authors affirm that the work is original, conducted with academic integrity, and free from any unethical practices, including plagiarism.

STATEMENT ON THE USE OF AI OR DIGITAL TOOLS IN WRITING

AI tools were used only for language editing, grammar improvement, and discussion support. The authors take full responsibility for all aspects of the research and the final content of the manuscript.

REFERENCES

- Achyar, N., Rusdinal, R., Gistituati, N., & Khairudin, K. (2019). Health education teachers' pedagogic and personality competencies in guiding practical clinical training of nursing students. In *Proceedings of the 1st International Conference on Innovation in Education (ICOIE 2018)* (pp. 132–136). Atlantis Press. <https://doi.org/10.2991/icoie-18.2019.31>
- Andrews, R. (Ed.). (2004). *The impact of ICT on literacy education*. London: RoutledgeFalmer.
- Aslan, Ö., Aktuğ, S. S., Ozkan-Okay, M., Yilmaz, A. A., & Akin, E. (2023). A comprehensive review of cyber security vulnerabilities, threats, attacks, and solutions. *Electronics*, 12(6), 1333. <https://doi.org/10.3390/electronics12061333>
- Brogi, S., Calabrese, A., Campisi, D., Capece, G., Costa, R., & Di Pillo, F. (2013). The effects of online brand communities on brand equity in the luxury fashion industry. *International Journal of Engineering Business Management*, 5, 32. <https://doi.org/10.5772/56854>
- Bulu, V. R., & Tanggur, F. (2021). The effectiveness of STEM-based PjBL on students' critical thinking skills and collaborative attitude. *Al-Jabar: Jurnal Pendidikan Matematika*, 12(1), 219–228. <https://doi.org/10.24042/ajpm.v12i1.8831>
- Celik, I., Muukkonen, H., & Dogan, S. (2021). A model for understanding new media literacy: Epistemological beliefs and social media use. *Library & Information Science Research*, 43(4), 101125. <https://doi.org/10.1016/j.lisr.2021.101125>
- Chen, Z., Chen, L., Zhou, X., Huang, L., Sandanayake, M., & Yap, P.-S. (2024). Recent technological advancements in BIM and LCA integration for sustainable construction: A review. *Sustainability*, 16(3), 1340. <https://doi.org/10.3390/su16031340>
- Collini, E., Nesi, P., & Pantaleo, G. (2023). Reputation assessment and visitor arrival forecasts for data-driven tourism attractions assessment. *Online Social Networks and Media*, 37, 100274. <https://doi.org/10.1016/j.osnem.2023.100274>
- Constantinides, E. (2014). Foundations of social media marketing. *Procedia - Social and Behavioral Sciences*, 148, 40–57. <https://doi.org/10.1016/j.sbspro.2014.07.016>
- Constantinides, E., Romero, C. L., & Boria, M. A. G. (2008). Social media: A new frontier for retailers? In *European Retail Research* (pp. 1–28). Springer. https://doi.org/10.1007/978-3-8349-8099-1_1

- Cortez, P. M., Ong, A. K. S., Diaz, J. F. T., German, J. D., & Jagdeep, S. J. S. S. (2024). Analyzing preceding factors affecting behavioral intention on communicational artificial intelligence as an educational tool. *Heliyon*, 10(3), e25896. <https://doi.org/10.1016/j.heliyon.2024.e25896>
- Cunningham, S., & Craig, D. (2019). *Social media entertainment: The new intersection of Hollywood and Silicon Valley*. New York University Press.
- Dewi, M., Sari, Y. R., Amna, S., Rasmita, & Susanti, R. (2019). The understanding of lecturers about the new literacy in industrial revolution era 4.0: A study case of University of Putra Indonesia YPTK Padang. *Journal of Physics: Conference Series*, 1339(1), 012105. <https://doi.org/10.1088/1742-6596/1339/1/012105>
- Ernawati, E., Dewi, M., Rosalina, L., Ferdian, F., & Andres, F. S. (2022). An evaluation of e-learning of entrepreneurship course: Learning alternative during COVID-19 pandemic for university students. *Jurnal Penelitian dan Evaluasi Pendidikan*, 26(1), 47–58. <https://doi.org/10.21831/pep.v26i1.44073>
- Escudeiro, N., Escudeiro, P., Barata, A., & Lobo, C. (2011). Enhancing students' team work and communication skills in international settings. In *2011 International Conference on Information Technology Based Higher Education and Training* (pp. 1–8). IEEE. <https://doi.org/10.1109/ITHET.2011.6018683>
- Flavián, C., & Guinalíu, M. (2005). The influence of virtual communities on distribution strategies in the internet. *International Journal of Retail & Distribution Management*, 33(6), 405–425. <https://doi.org/10.1108/09590550510600843>
- Imjai, N., Promma, W., Usman, B., & Aujirapongpan, S. (2024). The intertwined effects of digital literacy, agile mindset on design thinking skill and management control competency: Insights from Thai young accountants. *International Journal of Information Management Data Insights*, 4(2), 100244. <https://doi.org/10.1016/j.jjime.2024.100244>
- Jalinus, N., Phusavat, K., Alias, M., Michael, K., & Krismadinata, K. (Eds.). (2018). *Proceedings of the 4th International Conference on Technical Vocational Education and Training (TVET): Technical and vocational education and training for sustainable societies*. UNP Press.
- Jeraassawapong, J. (2019). *Discounted cash flow valuation of Beauty Community Public Company Limited* [Master's thesis].
- Kay, S., Mulcahy, R., & Parkinson, J. (2020). When less is more: The impact of macro and micro social media influencers' disclosure. *Journal of Marketing Management*, 36(3–4), 248–278. <https://doi.org/10.1080/0267257X.2020.1718740>
- Koller, O. (2017). *Social media marketing strategy for a Finnish professional beauty brand in Germany: Case: Scandinavian Skin Candy* [Bachelor's thesis].
- Kostić, J. O., Pedović, I., & Stošić, M. (2022). Predicting social media use intensity in late adolescence: The role of attachment to friends and fear of missing out. *Acta Psychologica*, 229, 103667. <https://doi.org/10.1016/j.actpsy.2022.103667>
- Kusumasondjaja, S. (2018). The roles of message appeals and orientation on social media brand communication effectiveness: An evidence from Indonesia. *Asia Pacific Journal of Marketing and Logistics*, 30(4), 1135–1158. <https://doi.org/10.1108/APJML-10-2017-0267>
- Leiss, W., Kline, S., Jhally, S., & Botterill, J. (2013). *Social communication in advertising: Consumption in the mediated marketplace*. Routledge. <https://doi.org/10.4324/9780203943014>
- Maulid, D. L., Hurriyati, R., & Hendrayati, H. (2022). The impact of social media marketing on consumer purchase decisions. In *Proceedings of the 6th Global Conference on Business, Management, and Entrepreneurship (GCBME 2021)* (pp. 231–235). Atlantis Press. <https://doi.org/10.2991/aebmr.k.220701.045>

- Mayasari, I., Haryanto, H. C., Hutagaol, O. D., Ramadhan, A. R., & Amir, I. (2023). Examining the role of social media marketing on brand love and its impact on brand centrality: The study of local fashion brands for the millennials. *Journal of Indonesian Economy and Business*, 38(2). <https://doi.org/10.22146/jieb.v38i2.5364>
- Sari, G. I., Winasis, S., Pratiwi, I., & Nuryanto, U. W. (2024). Strengthening digital literacy in Indonesia: Collaboration, innovation, and sustainability education. *Social Sciences & Humanities Open*, 10, 101100. <https://doi.org/10.1016/j.ssaho.2024.101100>
- Shim, J. K. (2000). *Information systems and technology for the noninformation systems executive: an integrated resource management guide for the 21st century*. CRC Press.
- Shpeizer, R. (2019). Towards a successful integration of project-based learning in higher education: Challenges, technologies and methods of implementation. *Universal Journal of Educational Research*, 7(8), 1765–1771. <https://doi.org/10.13189/ujer.2019.070815>
- Totti, N. B. S. J., & Nuryanto, S. (2024). Flipbook media assisted by local wisdom to improve learning outcomes narrative text for fourth-grade elementary school. *Journal of Education Research and Evaluation*, 8(4), 774–784. <https://doi.org/10.23887/jere.v8i4.81182>
- Yuniarti, E., Achyar, A., & Amimi, S. (2020). Effect of planting media and different concentration of wheat grass juice (*Triticum aestivum* L.) on anemic male mice (*Mus musculus* L.) leukocytes. In *Proceedings of the International Conference on Biology, Sciences and Education (ICoBioSE 2019)* (pp. 5–9). <https://doi.org/10.2991/absr.k.200807.002>

***Novriyanti Achyar (Corresponding Author)**

Educational Administration Study Program, Faculty of Education,
Universitas Negeri Padang
Jl. Prof. Dr. Hamka, Air Tawar Padang, West Sumatra 25131, Indonesia
Email:

Anisah

Educational Administration Study Program, Faculty of Education,
Universitas Negeri Padang
Jl. Prof. Dr. Hamka, Air Tawar Padang, West Sumatra 25131, Indonesia
Email:

Sari Febrianti

Educational Administration Study Program, Faculty of Education,
Universitas Negeri Padang
Jl. Prof. Dr. Hamka, Air Tawar Padang, West Sumatra 25131, Indonesia
Email:

Singgih Ginanjar

Educational Administration Study Program, Faculty of Education,
Universitas Negeri Padang
Jl. Prof. Dr. Hamka, Air Tawar Padang, West Sumatra 25131, Indonesia
Email:
