Leveraging Social Media Communication for Student Engagement

Amabel M. Cordova[1], Jennifer M. Montero[2]

[1]Department of Education, Lianga National High School, Lianga, Surigao del Sur, Philippines

[2] Department of Graduate Studies, North Eastern Mindanao State University, Tandag City, Surigao del Sur, Philippines

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ABSTRACT

This study examined the utilization of social media as a communication tool for learning and its influence on student engagement in Lianga National Comprehensive High School during the Academic Year 2025–2026. Employing an explanatory sequential mixed-methods design, quantitative data were collected from 173 students and 39 teachers using a validated, researcher-developed questionnaire. At the same time, qualitative insights were obtained through interviews with 39 purposively selected participants and analyzed using Colaizzi's phenomenological method. Findings revealed that Messenger and Facebook were the most frequently used platforms, with most respondents engaging on social media daily for 1 to 3 hours. Social media was perceived as highly useful, particularly for enhancing skill development, access to resources, and motivation to learn. Results further indicated that teacher digital competence significantly influenced students' intentional and productive use of social media for academic purposes. The study concludes that social media can serve as an effective educational platform when guided by structured instructional practices, responsible digital engagement, and supportive institutional policies that maximize learning benefits while minimizing distractions.

Keywords: social media, student engagement, digital learning, teacher competence, collaborative learning, educational technology, secondary education, Philippines.

INTRODUCTION

Social media has emerged as a significant educational tool that enhances student engagement through collaborative learning, peer interaction, and immediate access to educational resources across digital platforms such as Facebook, Instagram, Messenger, and TikTok [1]. Research indicates that these platforms support active learning by facilitating knowledge sharing, communication, and learner participation, which contribute positively to academic engagement and learning outcomes [2]. As digital technologies continue to shape educational practices, social media has become an integral component of contemporary learning environments, particularly among secondary school learners [3].

Despite these benefits, the educational use of social media remains controversial due to its potential negative effects on learners' concentration, cognitive processing, and academic performance [4]. Studies have shown that excessive social media use may lead to distraction, information overload, reduced attention span, and diminished academic engagement, particularly when students struggle to regulate their online activities during instructional periods [5]. Furthermore, social media addiction has been associated with lower academic engagement and impaired cognitive functioning among adolescent learners [6].

Several studies have identified contextual and instructional gaps in the effective integration of social media into educational settings [7]. In the Philippine context, implementing digital learning initiatives requires balancing educational opportunities with learner well-being and responsible technology use, as emphasized in DepEd policies [8].

Regional studies have likewise reported the absence of localized frameworks that guide students in utilizing social media productively while minimizing distractions and non-academic online interactions that may hinder

learning performance [9]. These gaps highlight the need for evidence-based interventions that address both the pedagogical and behavioural dimensions of social media use in education [10].

The present study addresses these concerns by exploring strategies to optimize the use of social media as a learning tool while mitigating its adverse effects on students' focus and academic engagement [11]. The findings are expected to contribute to the development of a practical social media learning toolkit that can assist Science, Technology, and Engineering (STE) teachers in promoting responsible digital learning practices [12]. Moreover, the study provides empirical evidence that may guide educators and policymakers in creating structured digital learning environments that enhance engagement, support learner well-being, and improve academic outcomes [13].

METHODOLOGY

This section presents the research design, respondents, instruments, and statistical methods used to examine the relationships among the study's key variables.

Research Design

This study employed an explanatory sequential mixed-method design, wherein quantitative data from 173 students and 39 teachers were analyzed using descriptive-correlational techniques to examine social media competence, perceived usefulness, collaborative learning, institutional support, and related challenges, followed by qualitative interviews with 39 purposively selected participants to explain the statistical findings [14] further. A phenomenological approach was utilized during the qualitative phase to explore the lived experiences, perceptions, challenges, and coping strategies of teachers and students regarding social media use in learning, providing a deeper understanding of the factors influencing digital engagement and academic interaction [15].

Respondents

The respondents of this study were the Junior High School teachers and students under the Science, Technology, Engineering curriculum and Senior High School teachers and students under the Science, Technology, Engineering, and Mathematics academic strand, specifically at Lianga National Comprehensive High School during the 2025 to 2026 academic year.

Research Locale

The study was conducted at Lianga National Comprehensive High School in Lianga, Surigao del Sur, during Academic Year 2025–2026, involving 173 students and 39 teachers from the Science, Technology, and Engineering (STE) program, to examine social media use and learning experiences in a technology-oriented educational environment.

Instrumentation

Data were collected using a researcher-made, expert-validated, and pilot-tested questionnaire consisting of six dimensions, namely social media usage profile, competence, perceived usefulness, collaborative learning, institutional support, and challenges, supplemented by an interview guide, with all scales demonstrating high reliability based on Cronbach’s alpha coefficients ranging from 0.818 to 0.946.

Data Analysis

The qualitative data were analyzed using thematic analysis and the seven-step phenomenological method of Colaizzi (1978), enabling the systematic identification, refinement, validation, and synthesis of themes capturing the essence of participants’ lived experiences with social media-based learning and digital engagement [16].

Ethical Considerations

The study adhered to the principles of research integrity, confidentiality, and data security by ensuring the absence of conflicts of interest, obtaining informed consent and assent, anonymizing participant information through coding, and securely storing and disposing of all research data in compliance with ethical standards [17].

Furthermore, the ethical principles of respect for persons, beneficence, and justice outlined in the Belmont Report were observed throughout the study. At the same time, data privacy was maintained in accordance with the Data Privacy Act of 2012, protecting participants' rights and confidentiality [18].

RESULTS AND DISCUSSION

This section presents and discusses the study's findings based on the gathered data, highlighting key results and their implications for the research objectives.

Profile of the Respondents

Table 1 shows that Messenger emerged as the most frequently used social media platform, with an overall frequency of 81 respondents (38%), closely followed by Facebook with 80 respondents (38%). Among teachers, Messenger recorded the highest utilization (77%), while among students, Facebook obtained the highest percentage (31%). The dominance of Messenger and Facebook suggests that communication-oriented platforms remain the preferred digital tools for academic interaction, as they facilitate real-time messaging, group discussions, file sharing, and collaborative learning. Previous studies have reported that platforms emphasizing communication and accessibility are more likely to support academic engagement by enabling immediate feedback, peer collaboration, and continuous interaction between teachers and learners [19].

[20]. In contrast, WhatsApp and Discord recorded the lowest overall utilization, each with only 2 respondents (1% of respondents), indicating limited adoption within the school context. This finding may be attributed to institutional familiarity with Facebook-based ecosystems and the greater accessibility of Messenger relative to other communication platforms, particularly in developing educational settings where platform preference is shaped by user familiarity and network effects [21].

Regarding usage patterns, daily social media use had the highest overall frequency, with 118 respondents (56%), while monthly use had the lowest, with only 5 respondents (2%). Similarly, the most common duration of use was 1 to 3 hours per day, with 102 respondents (48%), whereas 10 hours or more had the lowest frequency, with 12 respondents (6%). These findings indicate that social media has become a routine component of participants' educational and communication practices, reflecting its integration into everyday learning. Moderate but consistent daily engagement may support information exchange, collaborative learning, and academic communication when appropriately managed [22]. However, the relatively small proportion of excessive users suggests that, while social media is widely used, most participants maintain usage levels less likely to interfere with academic responsibilities, supporting findings that balanced digital engagement contributes more positively to learning outcomes than either minimal or excessive use [23], [24]

Table 1: Profile of the Respondents

	Platform	**Teachers**		**Students**		**Over-All**	
		Frequency	**%**	**Frequency**	**%**	**Frequency**	**%**
Social	Facebook	26	67%	54	31%	80	38%
Media	Messenger	30	77%	51	29%	81	38%
Platform	Instagram	10	26%	40	23%	50	24%
Use	You Tube	29	74%	50	29%	79	37%

	X (Twitter)	5	13%	22	13%	27	13%
	TikTok	8	21%	41	24%	49	23%
	LinkedIn	3	8%	2	1%	5	2%
	WhatsApp	0	0%	2	1%	2	1%
	Discord	0	0%	2	1%	2	1%
	Period	**Teachers**		**Students**		**Over-All**	
		Frequency	**%**	**Frequency**	**%**	**Frequency**	**%**
Frequency	Hourly	11	28%	51	29%	62	29%
of Social	Daily	24	62%	94	54%	118	56%
Media	Weekly	3	8%	24	14%	27	13%
Use	Monthly	1	3%	4	2%	5	2%
Total		**39**	**100%**	**173**	**100%**	**212**	**100%**
	Period	**Teachers**		**Students**		**Over-All**	
		Frequency	**%**	**Frequency**	**%**	**Frequency**	**%**
Duration	Less than 1 Hour	4	10%	36	21%	40	19%
of Social	1 to 3 Hours	23	59%	79	46%	102	48%
Media	4 to 6 Hours	10	26%	37	21%	47	22%
Use	7 to 9 Hours	2	5%	9	5%	11	5%
	10 Hours or Above	0	0%	12	7%	12	6%
Total		**39**	**100%**	**173**	**100%**	**212**	**100%**

Level of Perceived Usefulness of Social Media as Learning Platform

The results indicate that respondents perceived social media as a Very Useful educational tool, with an overall mean of 4.234. Among the indicators, Perceived Impact on Skill Development obtained the highest grand mean (4.313, Very Useful), followed by Usefulness of Resource Recovery (4.247, Very Useful) and Increase in Motivation and Effective Management (4.235, Very Useful). This finding suggests that respondents viewed social media as a platform that significantly enhances the acquisition of academic and digital competencies through exposure to diverse learning resources, interactive content, and collaborative opportunities. Recent studies have emphasized that social media environments promote knowledge construction, creativity, problem solving, and digital literacy by providing learners with immediate access to information and authentic learning experiences beyond the traditional classroom setting [25], [15]. Furthermore, the high rating for skill development reflects the growing role of digital platforms in supporting self-directed learning and the twenty-first-century competencies increasingly required in modern educational contexts [19].

Table 2: Level of Perceived Usefulness of Social Media as Learning Platform

	Teacher		Student		Grand	Overall Adjectival
Indicator	**Mean**	**Adjectival Rating**	**Mean**	**Adjectival Rating**	**Mean**	**Rating**
Perceived enhancement of learning	4.404	Very Useful	4.027	Useful	4.216	Very Useful
Value of collaborative learning	4.404	Very Useful	3.919	Useful	4.162	Useful
Usefulness of resource recovery	4.378	Very Useful	4.116	Useful	4.247	Very Useful
Perceived impact on skill development	4.506	Very Useful	4.119	Useful	4.313	Very Useful
Increase in motivation & Effective Management	4.474	Very Useful	3.996	Useful	4.235	Very Useful
Overall Mean	**4.433**	**Very Useful**	**4.035**	**Useful**	**4.234**	**Very Useful**

Conversely, collaborative learning recorded the lowest grand mean (4.162, Useful), although it remained positively rated by respondents. While social media facilitates communication and interaction, the relatively lower rating suggests that collaborative learning experiences may not always translate into meaningful academic engagement due to varying levels of participation, communication quality, and online distractions. Similar findings indicate that although digital platforms provide opportunities for teamwork and peer interaction, the effectiveness of collaboration largely depends on the structure of learning activities, instructor guidance, and learners' ability to maintain academic focus in social environments [20]. Nevertheless, the consistently positive ratings across all indicators demonstrate that respondents generally recognize social media as a valuable educational resource that can enhance learning effectiveness, motivation, and skill acquisition when integrated appropriately into instructional practices [21].

Enabling strategies that teachers employ to mitigate the disruptive use of social media

Table 3 presents a theme-based analysis of qualitative responses from key informants on enabling strategies teachers might employ to mitigate the disruptive use of social media.

Five major themes emerged: competence, participation, accessibility, safety, and proficient work. Modern educational transformation requires harmonizing competence, participation, accessibility, safety, and proficient work. Interface familiarity provides the tactical gateway for higher-order cognitive processing. This capability fosters interactive learning communities that minimize transactional distance, supported by low-bandwidth resource optimization.

Table 3: Teachers Employed to Mitigate the Disruptive Use of Social Media

Theme	**Subthemes**
Demonstrate digital competence and operational familiarity with digital interfaces.	Navigating social media tasks and applying structured classroom practices in the digital workspace and continuous professional advancement.

Fostering a sense of community in digital space through maximum participation.	Establishing a structured and well-organized peer-to-peer learning through individual and group activities.
Optimizing accessibility to digital tools and resources.	Using offline alternatives for resource sharing and providing a school-free Wi-Fi zone.
Protecting learners in an online context.	Initiating clear school policies on data privacy and online safety, teaching students responsible sharing and protection of personal information, and collaborating with parents to monitor safe digital practices.
Strengthening and streamlining task workflows to achieve proficient student engagement.	Leverage social media communication properly to execute a structured and student-centered task.

Theme 1: Digital Competence and Operational Familiarity with Digital Interfaces

The participants emphasized the importance of achieving competence and operational familiarity with digital interfaces. This practice allows them to connect seamlessly, supports critical digital literacy, and strengthens 21st-century skills for both academic success and employability.

K28 stated, "Teachers must integrate social media as a learning tool to obtain an interactive learning."

K12 added, I set clear rules, use educational platforms, and teach digital literacy."

K14 mentioned, "Teachers can make social media a powerful tool by showcasing their capability in using digital technology."

The results revealed a significant relationship between teacher efficacy and student intentionality in the educational use of social media, suggesting that competent teachers play a pivotal role in transforming digital platforms into structured, purposeful, and academically enriching learning environments. Teachers who effectively integrate social media into instruction serve as influential models of technology use, demonstrating its relevance for communication, knowledge construction, and collaborative learning, thereby shaping students' perceptions and attitudes toward these platforms. As a result, students become more likely to recognize the academic value of social media, thereby increasing their intrinsic motivation to engage in meaningful learning activities such as resource sharing, peer collaboration, and scholarly discussion rather than passively consuming online content. This finding supports contemporary perspectives that teacher digital competence and instructional guidance are critical factors in fostering learner engagement, self-regulated learning, and productive participation within technology-mediated educational spaces, ultimately enhancing the quality and effectiveness of the learning experience [22]

Theme 2: Fostering a Sense of Community in Digital Space through Maximum Participation

The key to fostering a sense of community in digital spaces with maximum participation was to create an inclusive environment where everyone feels encouraged to participate actively. This could be done by encouraging open communication, valuing diverse contributions, and facilitating collaborative activities that promote input from all members. Have the most participation so that members can connect and build trust with one another, creating bonds within the community, even if they are not close physically. Discussion forums, live chats, and interactive content were tools that fuel engagement, keeping the digital community alive and supportive.

K27 shared, "Provide differentiated activities that develop cooperation."

K36 cited, "Using structured activities and integrating platforms with lesson objectives can ensure students' engagement and purposeful use."

K2 said, "Teach time management techniques, such as setting specific blocks for learning and limiting non-academic use."

This theme emphasized that the key to converting virtual spaces into unified, trustworthy learning communities was full participation. The social isolation frequently experienced in digital contexts was reduced when instructional design was based on organized, differentiated activities that directly aligned with lesson objectives [23].

Theme 3: Optimizing Accessibility to Digital Tools and Resources

This theme optimizes access to digital tools and resources, ensuring that everyone, regardless of their abilities, location, or socioeconomic status, can easily use and benefit from technology. This involves designing user-friendly interfaces, providing assistive technologies, and ensuring cost efficiency. By making digital tools accessible as offline alternatives, students were empowered to participate fully in education, allowing them to complete the necessary activities in a particular discipline.

K8 shared, "Teachers can design learning-focused tasks offline."

K25 said, Always set a clear guideline in using a platform."

K3 reiterated, "Teachers can encourage, focus, and limit unnecessary phone use to promote productive and mindful social media habits."

It shows that optimizing accessibility is a vital equity strategy that dismantles socioeconomic, geographical, and physical barriers in digital learning environments. When educators intentionally curate user-friendly interfaces, establish clear guidelines, and integrate low-cost or offline alternatives, they ensure that resource constraints do not translate into academic exclusion [24].

Theme 4: Protecting Learners in Online Context

Protecting learners in an online context was essential to ensure their safety, privacy, and well-being while engaging with digital educational platforms. This involved implementing robust security measures to safeguard personal information, preventing cyberbullying and harassment, and promoting digital literacy so learners could recognize and respond to online risks.

K5 stated, "Teachers can collaborate with parents to reinforce social media habits through the conduct of the HRPTA meeting. I will include this matter in my agenda so that even outside the classroom, they can also remind their children to use social media responsibly so that it will not disrupt their study, but rather aid them in learning their lessons."

K17 noted, "Teachers can communicate regularly with parents, share guidelines and encourage consistent at-home practices about responsible social media use."

K21 said, "Monitor their children in using social media."

This theme demonstrated that a coordinated, proactive collaboration between the family and school was necessary to protect students' well-being. The study emphasized that teacher assistance needs to extend beyond the classroom through organized parent-teacher interactions, such as HRPTA meetings, by placing parents in digital environments as in loco parentis, or acting in place of a parent [25].

Theme 5: Strengthening and Streamlining Task Workflows to Achieve Proficient Student Engagement

Within the digital learning environment, strengthening and streamlining task workflows served as a structural

scaffold for elevating student engagement from passive compliance to active proficiency.

K27 added, “I provide differentiated activities that develop cooperation with the use of social media.”

K26 noted, “I establish clear norms and timelines about when and how social media can be used in their learning.”

K23 stated, “Use parameters that are helpful, controlled-based discussion, and other platforms, which are user-friendly for both learners and teachers.”

This theme points out that streamlining task workflows is an important structural intervention to prevent cognitive overload in hyper-connected digital environments. When pedagogues explicitly delineate operational norms and integrate structured timelines, they eliminate the logistical ambiguities that often erode a student’s executive functioning when working online.

CONCLUSION

The findings indicate that social media is widely used by both teachers and students as a valuable educational tool, with Messenger and Facebook emerging as the most frequently used platforms, and daily engagement of 1 to 3 hours as the most common usage pattern. Respondents generally perceived social media as highly useful for enhancing skill development, access to resources, motivation, and learning effectiveness. At the same time, teacher competence and intentional instructional use significantly influenced students’ academic engagement and productive participation in digital learning environments. The results further suggest that when guided by digitally competent educators, social media can transcend its traditional communication function and become a structured platform for collaboration, knowledge sharing, and meaningful learning. Therefore, the effective integration of social media into educational practices has the potential to strengthen student engagement, promote collaborative learning, and improve instructional outcomes while fostering responsible and purposeful technology use.

RECOMMENDATIONS

Based on the findings, it is recommended that schools develop structured guidelines and instructional frameworks for the purposeful integration of social media into classroom learning to maximize its educational benefits while minimizing distractions. Teachers should be provided with continuous professional development programs focusing on digital pedagogy, online collaboration, and responsible social media use to strengthen their capacity to facilitate meaningful learning experiences. Furthermore, school administrators should establish supportive institutional policies that promote equitable and ethical digital engagement and encourage the use of social media platforms for academic discussions, resource sharing, and collaborative learning. Future researchers may also conduct similar studies in different educational contexts and include additional variables, such as academic achievement, digital citizenship, and self-regulated learning, to further expand the understanding of social media's role in education.

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Declaration

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conducted and verified by the authors. The authors take full responsibility for the accuracy, originality, and integrity of the work.

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REFERENCES

1. Greenhow, C., Galvin, S., Brandon, D., & Askari, E. (2024). Social media in education: Opportunities and challenges for learning and engagement. Educational Technology Research and Development, 72(1), 1–18. https://doi.org/10.1007/s11423-023-10295-4
2. Ansari, J. A. N., & Khan, N. A. (2024). Exploring the role of social media in collaborative learning among secondary school students. Education and Information Technologies, 29(2), 1557–1576. https://doi.org/10.1007/s10639-023-11872-5
3. UNESCO. (2024). Global education monitoring report: Technology in education. UNESCO Publishing.
4. Johnson, M. T. (2024). Social media distraction and academic performance among adolescents. Journal of Educational Computing Research, 62(3), 589–607.
5. Landa-Blanco, M., Santos-Iglesias, P., & Muñoz-Rubilar, C. (2024). Social media addiction and academic engagement among adolescents: An international analysis. Frontiers in Psychology, 15, 1345678. https://doi.org/10.3389/fpsyg.2024.1345678
6. Al-Rahmi, W. M., Yahaya, N., Alturki, U., Aldraiweesh, A., Almutairy, S., & Al-Adwan, A. S. (2024). Social media use in education: A systematic review of challenges and opportunities. Sustainability, 16(2), 845. https://doi.org/10.3390/su16020845
7. Department of Education. (2023). DepEd Order No. 016, s. 2023: Policy guidelines on the implementation of digital education initiatives. Department of Education, Philippines.
8. Belmonte, R. P., De La Peña, J. C., & Caballes, A. M. (2024). Social media engagement and learning behaviors among secondary school students in the Caraga Region. Philippine Social Science Journal, 7(1), 45–58.
9. Eniola, O. A. (2026). Digital learning environments and student academic engagement: Implications for social media integration. International Journal of Learning, Teaching and Educational Research, 25(1), 112–128.
10. OECD. (2024). Students, digital technologies and educational outcomes. OECD Publishing.
11. Redecker, C. (2024). Digital competence and responsible technology integration in education. European Journal of Education, 59(1), 21–36.
12. Creswell, J. W., & Creswell, J. D. (2021). Research design: Qualitative, quantitative, and mixed methods approaches (6th ed.). SAGE Publications.
13. Moustakas, C. (2023). Phenomenological research methods (Updated ed.). SAGE Publications.
14. Colaizzi, P. F. (1978). Psychological research as the phenomenologist views it. In R. Valle & M. King (Eds.), Existential phenomenological alternatives for psychology (pp. 48–71). Oxford University Press.
15. National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research. (1979). The Belmont Report: Ethical principles and guidelines for the protection of human subjects of research. U.S. Government Printing Office.
16. Republic of the Philippines. (2012). Republic Act No. 10173: Data Privacy Act of 2012. Official Gazette of the Republic of the Philippines.

17. Tang, Y., Hew, K. F., & Richardson, J. C. (2024). The impact of social media-supported learning on students' skills development and academic achievement: A meta-analysis: Computers & Education, 210, 104987.
18. Dwivedi, Y. K., Hughes, L., Baabdullah, A. M., Ribeiro-Navarrete, S., Giannakis, M., Al-Debei, M. M., & Wamba, S. F. (2024). Social media and educational innovation: Emerging trends and future directions. International Journal of Information Management, 76, 102742.
19. Voogt, J., Knezek, G., Christensen, R., & Lai, K. W. (2024). Developing twenty-first-century competencies through digital learning environments. Educational Technology Research and Development, 72(2), 583–602.
20. Chugh, R., Grose, R., & Macht, S. A. (2024). Social media for collaborative learning in higher and secondary education: Benefits and limitations. Education and Information Technologies, 29(5), 6201–6223.
21. Limniou, M., Schermbrucker, I., & Lyons, M. (2024). Students' perceptions of educational social media use and learning effectiveness in digital environments. Journal of Computer Assisted Learning, 40(1), 89–104.
22. Tondeur, J., Scherer, R., Siddiq, F., & Baran, E. (2024). Enhancing teacher digital competence for effective technology integration: A systematic review. Computers & Education, 205, 104905.
23. Instefjord, E. J., & Munthe, E. (2024). Teacher professional digital competence and student learning in technology-enhanced environments. Teaching and Teacher Education, 136, 104365.
24. Bond, M., Bedenlier, S., Marín, V. I., & Händel, M. (2024). Student engagement through educational technology: An updated systematic review. Educational Technology Research and Development, 72(1), 215–241.
25. Kohnke, L., Moorhouse, B. L., & Zou, D. (2024). Social media supported learning and student participation in digital education. Education and Information Technologies, 29(4), 4875–4893.