

Social Media Engagement and Students' Critical Thinking Disposition Influenced by Their Information Skills

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Date received: October 17, 2024

Date revised: November 5, 2024

Date accepted: November 23, 2024

Originality: 89%

Grammarly Score: 99%

Similarity: 11%

Recommended citation:

Soriano, H., & Bastida, G. (2024). Social media engagement and students' critical thinking disposition influenced by their information skills. *Journal of Interdisciplinary Perspectives*, 2(12), 453-460.

<https://doi.org/10.69569/jip.2024.0579>

Abstract. This study explored the relationship between social media engagement and critical thinking disposition among three hundred thirty-nine master's students at the Professional School of the University of Mindanao, Matina Campus, focusing on the mediating role of information skills. Using a quantitative, non-experimental design and stratified random sampling, data were collected through supervised face-to-face surveys and Google Forms to ensure accuracy. Data analysis included mean scores to assess the levels of social media engagement, critical thinking disposition, and information skills of the respondents; Pearson Product Moment Correlation was also used to examine relationships among these variables, and path analysis was further used to evaluate the mediating effect of information skills. The findings highlighted three primary dimensions of social media engagement: habitual use, obligation, and knowledge sharing. The results indicated that students exhibited a very high level of habitual use, integrating social media into their routines, a sense of obligation to engage in online interactions and a strong commitment to community participation. They also demonstrated very high knowledge-sharing behaviors, actively exchanging information, skills, and expertise. The analysis showed that students possessed a very high critical thinking disposition, marked by active engagement, cognitive maturity, and a robust capacity for problem-solving and synthesizing information. Moreover, the participants demonstrated strong information skills, including effective abilities in information retrieval, evaluation, and the application of prior knowledge to construct new concepts. Mediation analysis indicated that information skills partially mediated the relationship between social media engagement and critical thinking disposition, underscoring the value of fostering information literacy to enhance critical thinking alongside social media engagement. These findings suggest that information skills play a critical role in linking social media engagement to critical thinking, advocating for educational strategies that develop information literacy as a way to support students' critical thinking development further.

Keywords: Social media engagement; Critical thinking disposition; Information skills; mediation.

1.0 Introduction

Teachers are central to developing students' critical thinking skills, guiding them as they learn to evaluate and interpret the information they encounter, especially from social media. By incorporating critical thinking exercises, educators help students assess the credibility of online content. This skill is crucial in today's digital age, where sources of information are abundant yet often contradictory (Escola-Gascon et al., 2021). However, the vast quantity of information on social media presents significant challenges. Most students lack adequate guidance on using social media effectively, often struggling to discern credible information from misleading content, resulting

in confusion and misinformation. To address these challenges, researchers emphasize the importance of integrating critical media literacy into educational practices to equip students with the skills to navigate complex online environments (Akpoghiran & Erubami, 2019).

In recent years, studies have examined how critical thinking instruction enhances students' ability to recognize fake news and evaluate information reliability. For instance, Álvarez-Huerta et al. (2022) found that focused critical thinking instruction empowers students to become more discerning media consumers, strengthening their higher-order thinking skills and contributing to overall academic growth. Despite evidence supporting the positive impact of targeted critical thinking instruction, research exploring the role of information skills in mediating the relationship between social media engagement and critical thinking disposition remains limited. While some studies suggest that strong information skills enable students to evaluate online content more effectively, few have directly examined how these skills influence students' ability to critically analyze social media information (Pudyaningsih et al., 2020).

This study seeks to fill this gap by examining the relationship between social media engagement and critical thinking disposition among students, focusing specifically on the mediating role of information skills. By understanding how students' abilities to manage and evaluate information impact their critical thinking development, this research aims to provide insights that could enhance educational strategies in the digital era. The findings could offer valuable guidance to educators on integrating information literacy and critical thinking instruction, ultimately supporting students' ability to assess and effectively engage with social media content critically.

2.0 Methodology

2.1 Research Design

The study utilized a non-experimental quantitative design and a descriptive-correlational research approach to gather data and insights. Calderon et al. (2012) define descriptive research as a fact-finding investigation aimed at understanding the main causes of situations, which was key in exploring the relationships in this study. The descriptive aspect provided an overview of the current situation, while the correlational component focused on identifying relationships between variables, enabling predictions based on existing data (Stangor & Walinga, 2019). Khan (2019) notes that descriptive-correlational research uses quantitative methods to analyze and interpret existing conditions, often comparing variables to uncover relationships among non-manipulated factors. This study specifically examined the relationships among three key variables: social media engagement, critical thinking disposition, and information skills of professional school students. It aimed to determine if higher levels of social media engagement influenced students' critical thinking, with information skills as a potential mediator. Quantitative methods were employed to collect data, and statistical analyses were conducted to identify significant relationships and mediation effects.

2.2 Research Locale

The study was carried out at the University of Mindanao, one of the universities in Davao City, during the school year 2024-2025. The research setting provided a conducive environment for exploring the relationship between social media engagement, information skills, and critical thinking disposition among students. The university was chosen for its diverse student population and active academic programs, making it an ideal location for this study.

2.3 Research Participants

The population of interest in this study consisted of students enrolled in the master's Program for the School Year 2024-2025. Participants were selected using a simple random sampling method to ensure everyone had an equal chance of being included. This method was chosen for its simplicity and effectiveness in generating a representative sample of the total population, which comprised approximately 1,500 students (Reeger & Aloe, 2019). To determine the appropriate sample size, Raosoft's formula was used, with a margin of error set at 5% and a confidence level of 95%. Based on this, the required sample size was calculated to be 316 respondents. However, the final number of respondents involved in the study was three hundred thirty-nine (339), exceeding the minimum sample size required. This ensured a sufficient sample size for the analysis, improving the study's reliability and accuracy (Raosoft, 2013).

2.4 Research Instrument

This study used an adapted, modified questionnaire based on various researchers' works, consisting of three sections: Social Media Engagement (adapted from Shava, 2017), Critical Thinking Disposition (Demircioğlu & Kilmen, 2014), and Information Skills (Clark & Catts, 2007). The Social Media Engagement section covered habit, obligation, and knowledge sharing; the Critical Thinking Disposition section included engagement, innovativeness, and cognitive maturity, while the Information Skills section focused on finding, evaluating, and managing information. The survey received a rating of 4.53 (excellent) from specialists and was pilot-tested for reliability. Cronbach's alpha values confirmed the reliability of the sections, with scores of .902 for Social Media Engagement, .92 for Critical Thinking Disposition, and .934 for Information Skills. A five-point Likert scale was employed throughout the questionnaire.

2.5 Data Gathering Procedure

This study utilized specific steps to gather data systematically. First, three distinct questionnaires were developed and subjected to internal validation. Subsequently, external validation was conducted by experts in the field, resulting in revisions based on their feedback. Following these revisions, approval was obtained from the researcher's advisor and the graduate school dean at the University of Mindanao. Once approval was secured, permission was requested from the relevant offices of the respondents to proceed with data collection. The survey questionnaires were distributed to respondents face-to-face and via Google Forms. Before sharing the link, the researcher explained the study's purpose and the objectives of the questionnaire. After one week, the completed survey forms were collected, and the responses were tabulated and submitted to an authorized statistician for data analysis.

2.6 Ethical Considerations

This research study adhered to ethical guidelines to protect human participants. The researcher obtained permission from the vice president of academics to distribute the survey, and a cover letter was included outlining the researcher's background, study objectives, and potential benefits. The cover letter also ensured respondents' anonymity and confidentiality. Data were securely stored, with identifying information separated from responses and safeguarded on password-protected devices or locked filing cabinets. Respondents were informed of their rights to decline participation or seek clarification, reinforcing ethical transparency. Furthermore, strict measures were implemented to prevent plagiarism, utilizing tools like Grammarly and Quillbot while avoiding data fabrication or falsification, with expert consultations to review the findings.

In addition to these measures, the study protocol number was obtained from the relevant ethics committee, which reviewed and approved the study to ensure adherence to ethical standards. Ethical considerations also included disclosing any conflicts of interest and ensuring the study posed no physical, psychological, or socio-economic risks to participants. Informed consent was secured from all respondents, ensuring transparency and agreement to participate in the study.

3.0 Results and Discussion

3.1 Social Media Engagement

Table 1 presents the results indicating a high overall mean score for social media engagement among students, reflecting consistent usage patterns. The highest score was observed in the habit dimension, suggesting that social media has become a fundamental aspect of students' daily routines. This consistent engagement aligns with previous studies emphasizing the significance of social media for interaction and information sharing (Mhlongo et al., 2023; Navales & Dequito, 2022). The obligation dimension highlighted students' commitment to engaging with their communities, reinforcing that social media facilitates meaningful connections.

Table 1. Descriptive statistics of the level of social media engagement

Indicator	Mean	SD	Descriptive Level
Habit	4.48	0.61	Very High
Obligation	4.35	0.63	Very High
Knowledge Sharing	4.37	0.57	Very High
Overall	4.40	0.56	Very High

This finding is supported by research suggesting that social media can enhance student community involvement and civic engagement (Yaqub & Alsabban, 2023). Moreover, students' willingness to share knowledge through these platforms underscores social media's role in collaboration and information exchange. This aspect is crucial, as educators can leverage social media to foster collaborative learning environments. Integrating social media into classroom discussions and group projects could enhance learning outcomes by promoting active participation and peer interaction. Overall, these findings highlight the need for educational institutions to recognize the influence of social media on students. By incorporating these platforms into educational practices, institutions can support academic growth and community engagement, further enhancing the learning experience.

3.2 Critical Thinking Disposition

Table 2 indicates students demonstrated a high overall critical thinking disposition, reflecting minimal response variability. This consistent level of critical thinking suggests that students regularly engage in collaborative learning, which enhances their critical thinking skills. Such findings align with previous studies by Boikou (2019) and Trout (2020), emphasizing the importance of collaborative activities in developing critical thinking. Further, the engagement dimension specifically reflects students' active participation in problem-solving, resonating with the work of Bedenlier et al. (2020). This active involvement supports Oddone's (2023) Connectivism Learning Theory, which emphasizes the role of engagement in knowledge acquisition.

Table 2. Descriptive statistics of the level of critical thinking disposition

Indicator	Mean	SD	Descriptive Level
Engagement	4.43	0.57	Very High
Innovativeness	4.29	0.59	Very High
Cognitive Maturity	4.27	0.64	Very High
Overall	4.33	0.57	Very High

The innovativeness dimension highlights students' eagerness to explore new ideas, consistent with findings by Wertz et al. (2020). This eagerness is crucial as it fosters creativity and adaptability, skills that are essential in today's rapidly changing world. The cognitive maturity dimension also implies that students can evaluate multiple perspectives, reflecting their engagement with complex cognitive tasks. This finding aligns with Oddone's (2023) theory and corroborates Bedenlier et al. (2020), suggesting that exposure to diverse opinions significantly enhances critical thinking skills.

3.3 Information Skills

Table 3 indicates that students demonstrated a very high level of information skills, reflecting consistent responses across various dimensions. This proficiency suggests a positive contribution to their academic success and lifelong learning, as noted by Ozor and Toner (2022). Students' ability to effectively find, evaluate, manage, and utilize information fosters their development as critical thinkers, supporting findings by François (2022). The dimension focused on finding needed information effectively and efficiently suggests that students are adept at using search tools and adapting their information-seeking strategies. This aligns with research indicating that proficient users can navigate online and library resources effectively (Akpoghiran & Erubami, 2019).

Table 3. Descriptive statistics of the level of information skills

Indicator	Mean	SD	Descriptive Level
Finds needed information effectively and efficiently	4.48	0.53	Very High
Critically evaluates information and the information-seeking process	4.44	0.63	Very High
Manages information collected or generated	4.54	0.54	Very High
Applies prior and new information to construct new concepts or create new understandings	4.46	0.57	Very High
Uses information with understanding	4.48	0.58	Very High
Overall	4.48	0.53	Very High

Students' ability to critically evaluate information and the information-seeking process demonstrates their capacity to assess sources for accuracy and relevance, a vital aspect of critical thinking emphasized by Tully et al. (2021). Their strong proficiency in information management indicates that they excel at organizing and tracking sources, corroborating findings from Darling-Hammond et al. (2019). Moreover, students showed a remarkable ability to synthesize new ideas by combining existing and new information, which reflects higher-order thinking skills. This finding aligns with Kujur and Singh (2020), who noted that creating new concepts indicates advanced cognitive abilities. Finally, students were strongly aware of information use's ethical, legal, and social implications.

This commitment to ethical standards in academic work is crucial, as highlighted by Mhlongo et al. (2023), ensuring that students excel academically and uphold integrity in their information practices.

3.4 Relationship Between Variables

Table 4 presents the correlation analysis results that examined the relationship between social media engagement and students' critical thinking disposition, mediated by their information skills. The analysis reveals significant positive relationships among all variables, highlighting important implications for educational practices. The strong correlation between social media engagement and critical thinking disposition indicates that increased engagement on social media platforms is associated with a heightened disposition toward critical thinking among students.

Table 4. Correlation between variables

Pair	Variables Coefficient	Correlation	p-value	Decision
IV and DV	Social Media Engagement and Critical Thinking Disposition	0.960	0.000	Reject the null hypothesis
IV and MV	Social Media Engagement and Information Skills	0.895	0.000	Reject the null hypothesis
DV and MV	Critical Thinking Disposition and Information Skills	0.886	0.000	Reject the null hypothesis

This finding supports the notion that social media can enhance critical thinking skills through ongoing interaction with digital content, evaluation of online resources, and peer collaboration. Bedenlier et al. (2020) noted that social media activities can foster critical thinking more effectively than traditional face-to-face learning by promoting digital literacy and critical engagement. The significant relationship between social media engagement and critical thinking disposition can be explained through Social Learning Theory (Bandura, 1977), which emphasizes learning through observation and interaction within social contexts. Engaging on platforms like Facebook allows students to observe, question, and critically assess information. This is echoed by Rhyne et al. (2019), who concluded that social media engagement significantly contributes to cognitive maturity, including critical thinking among South African rural youth.

Another significant relationship the analysis identifies is between social media engagement and information skills. This strong positive correlation suggests that increased engagement with social media correlates with improved information skills. This implies that social media enables students to evaluate information, verify sources, and assess content reliability, consistent with findings from the Stanford Graduate School of Education, as cited by Ozor and Toner (2022). Their study revealed that many students struggle to distinguish between real and fake information. Consequently, social media platforms serve as valuable tools for developing these skills by exposing students to content requiring critical evaluation. This aligns with Kaarakainen et al. (2019), who argued that social media use is intertwined with developing sophisticated information skills. As students share knowledge, engage in discussions, and navigate online resources, they inherently assess the credibility of information, enhancing their information literacy. Johnson et al. (2021) further emphasize that information skills are essential for lifelong learning and academic success, especially as institutions strive to improve students' independent access to reliable information.

The correlation between critical thinking disposition and information skills confirms another significant positive relationship. Students with a strong disposition toward critical thinking tend to demonstrate higher information skills, highlighting the interdependence between critical thinking and the ability to process and evaluate information. This suggests that better critical thinkers are more adept at discerning information quality and utilizing it effectively in academic settings. These findings are consistent with Boikou (2019), who asserted that students with heightened critical thinking can gather, evaluate, and apply information independently. Wertzet et al. (2020) also argued that individuals with strong information skills leverage critical thinking to navigate the overwhelming amount of available information, both online and offline.

3.5 Social Media Engagement's Influence on Critical Thinking Disposition as Mediated by Information Skills

Table 5 shows the mediation analysis conducted in this study, which explored the relationship between social media engagement, information skills, and critical thinking disposition through a structured path analysis. A key component in interpreting these results is the Standard Error (SE), which provides insight into the precision of the estimates. The analysis reveals significant relationships across different paths, emphasizing social media engagement's role in enhancing information skills and critical thinking disposition.

Table 5. Regression analysis shows social media engagement's influence on critical thinking disposition as mediated by information skills

Step	Path	B	S.E.	β
1	c	0.966	0.015	.960
2	a	0.850	0.023	.895
3	b	0.146	0.036	.138
4	c'	0.842	0.034	.836

* $p < 0.05$

The first step in the analysis examined the direct relationship between social media engagement and critical thinking disposition. The findings indicated a positive influence of social media engagement on critical thinking disposition, suggesting that students who engage more with social media demonstrate higher critical thinking skills. This aligns with Rhyne et al. (2019), who demonstrated that social media can enhance cognitive abilities, including critical thinking.

In the second step, the analysis assessed the impact of social media engagement on information skills, revealing a strong positive relationship. This implies that increased engagement correlates with better information skills, confirming the notion presented by Kaarakainen et al. (2019) that social media aids in developing skills necessary for evaluating and verifying information.

The third step tested the relationship between information skills and critical thinking disposition. The significant positive correlation indicates that students with better information skills tend to exhibit a stronger disposition toward critical thinking. This finding complements Boikou's (2019) assertion that students with higher critical thinking dispositions possess better information skills, reinforcing the interconnectedness of these abilities.

Finally, the analysis considered the mediating role of information skills in the relationship between social media engagement and critical thinking disposition. The results suggested that while social media engagement significantly influenced critical thinking disposition, the effect size decreased, indicating partial mediation. This finding implies that although information skills are key, other contributing factors likely exist. Bedenlier et al. (2020) emphasized that social media learning environments foster various skills, including critical thinking, beyond just information skills.

The variability noted in the estimates, particularly in the paths that included information skills, suggests that other external factors may influence the mediation. Nonetheless, the overall analysis underscores that social media engagement and enhanced information skills significantly contribute to developing students' critical thinking dispositions. Johnson et al. (2021) further highlight the importance of developing information skills for lifelong learning, reflecting the current study's implications that fostering social media engagement and information skills can significantly enhance students' critical thinking abilities.

4.0 Conclusion

The students demonstrate a profound engagement with social media, characterized by habitual use, a sense of obligation to participate in their online communities, and a commitment to knowledge sharing. They exhibit a very high level of critical thinking disposition, actively engaging in problem-solving and showcasing cognitive maturity as they navigate complex issues. Their information skills are equally impressive, as they efficiently locate, evaluate, and manage information while being aware of the ethical implications of their use. The strong positive correlations among social media engagement, critical thinking disposition, and information skills highlight the interconnectedness of these competencies, suggesting that social media serves as a vital platform for enhancing cognitive skills. Furthermore, the mediation analysis confirms that improved information skills partially mediate the relationship between social media engagement and critical thinking disposition, emphasizing the need to foster information literacy and social media engagement to effectively cultivate students' critical thinking abilities.

Future research directions could include conducting longitudinal studies to assess the long-term impacts of social media use on critical thinking and information literacy across various educational contexts (Villalobos, 2023). Additionally, investigating which types of social media interactions—such as collaborative projects or peer feedback, are most effective in enhancing these skills would provide valuable insights for educators (Swinkels, 2023).

These future directions are significant for educators and students beyond the immediate sample studied. Educators can create more engaging and interactive learning environments that encourage critical thinking and collaboration among students by understanding how social media can be strategically utilized in educational settings. This prepares students for the complexities of a digital world and equips them with essential skills for their academic and professional futures. As social media plays a pivotal role in education, fostering an informed and responsible approach to its use will be crucial for developing students' cognitive abilities in an increasingly interconnected landscape.

5.0 Contributions of Authors

The realization of this study involved significant contributions from the author, ensuring a comprehensive approach to the research process. The author was crucial in supervising the overall project, guiding its direction, and ensuring adherence to research standards. She was responsible for data encoding and analysis, meticulously handling the data to extract meaningful insights. The author further contributed to the writing and interpretation of the findings, synthesizing the results and ensuring clarity in the presentation.

6.0 Funding

This work received no specific grant from any funding agency.

7.0 Conflict of Interests

The authors declare no conflicts of interest about the publication of this paper.

8.0 Acknowledgment

The researcher wishes to express heartfelt gratitude to the Almighty God for the gift of life, wisdom, and perseverance throughout this study. Special appreciation goes to Dr. Garry L. Bastida, the thesis adviser, for his unwavering support, insightful guidance, and encouragement, which were instrumental in completing this thesis. The researcher also extends thanks to the panel of examiners: Chosel P. Lawagon, PhD; Ramcis N. Vilchez, DIT; Estela R. Dequito, DM; and Prof. Brigida E. Bacani, MAEd-LS, along with external validator Warlita C. Canque, EdD. Their thorough reviews and constructive feedback greatly enhanced the quality of this work. Additionally, gratitude is expressed to Dr. Rinante L. Genuba for his expertise in the statistical techniques used. Finally, the researcher appreciates all the Master of Arts students at the University of Mindanao who participated in this study, as their insights were vital to its success.

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