



Exploring the Role of Social Media in Promoting Collaborative Learning: A Systematic Review

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Abstract

This systematic literature review examines the power of social media on facilitating collaborative learning across various educational environments. PRISMA strategy was adopted to conduct this review. Data were collected by searching Google Scholar, Scopus and ERIC database. By applying inclusion and exclusion criteria 28 articles were selected. Based on the thorough analysis of data from 28 studies, this study seeks to understand how platforms like Facebook, WhatsApp, Twitter, and others affect peer interaction, knowledge sharing, and learner engagement. This paper looks at the benefits and drawbacks of using social media for collaborative learning. It highlights how social media can foster informal learning environments while also acknowledging the potential for diversions and off-topic conversations. The main conclusions indicated that organised activities, direct involvement of instructors, and careful selection of platforms are essential for optimising the educational benefits of social media. To maximize social media's effectiveness in promoting collaborative learning, guidelines are provided to educators. This analysis suggests that social media can be used strategically to enhance learning and prepare kids for a future in which they will be connected to the internet.

Keywords: Social media, digital literacy, collaborative learning, synchronous learning, asynchronous learning

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Introduction

Social media has revolutionized interpersonal communication, information sharing, and

collaboration in the digital era (Greenhow & Chapman, 2020). In addition to its original function as a medium for social connection, it has transformed into a potent instrument for educational endeavors, specifically in promoting collaborative learning (Qureshi et al., 2023). Collaborative learning, based on the principles of social constructivist theory, highlights the significance of interaction, dialogue, and the collective construction of knowledge (Kaliisa et al., 2022). Through social media's connectedness and accessibility, learners can surpass geographical limitations, participate in real-time discussions, and collaboratively address issues. Social media integration in the classroom has benefits as well as drawbacks. Social media sites like Facebook, Twitter, and LinkedIn, along with educational apps like Edmodo and Google Classroom, enable students to cooperatively create knowledge through discussions, multimedia sharing, and peer review (Al-Rahmi et al., 2022). This fosters a dynamic atmosphere in which learning is facilitated through collaborative user engagement and the exchange of shared experiences (Ansari & Khan, 2020). However, in spite of its widespread use, the effects of social media on collaborative learning—specifically, its efficacy, challenges, and long-term impact on learning outcomes has not been adequately studied. The purpose of this systematic review is to investigate how social networking platforms can support group learning. Through a review of pertinent literature, the study seeks to analyze social media platforms' effectiveness in fostering collaboration in a complete manner. It also seeks to identify the advantages and difficulties associated with their utilisation and suggest potential areas for future research in this domain. The objective of this review is to provide educators, policymakers, and scholars with important insights regarding the effective utilization of social media to enhance cooperative learning in a variety of educational settings.

Literature Review

Scholars have demonstrated a great deal of interest in social media as an educational tool, particularly in relation to its ability to support and enhance collaborative learning. This section compiles and analyses previous research on the influence of social media on cooperative learning. It examines explicitly essential topics such as the sharing of knowledge, interaction among peers, active participation, and the difficulties associated with using social media in educational environments.

Social Media and Knowledge Sharing

Social networking sites are acknowledged as effective platforms for knowledge sharing and group education. Empirical studies demonstrate that social media platforms which include Facebook, Twitter and Whatsapp facilitate immediate sharing of thoughts, resources, and experiences among learners, hence promoting a collaborative learning environment (Sabah, 2023). The asynchronous aspect of social media enables learners to engage in discussions at their preferred speed, facilitating a more profound comprehension of the subject matter through contemplation and conversation (Rahimi et al., 2015). In addition, integrating multimedia tools inside social media platforms facilitates collaborative learning by allowing users to easily share videos, photographs, and documents, enhancing the overall learning experience (Gao et al., 2012).

Peer Interaction and Social Presence

Social media dramatically enhances peer connection and social presence, making it a valuable contribution to collaborative learning. Gunawardena et al. (2014) contended that social media fosters a sense of collective identity and belongingness among the students by strengthening their interpersonal relationships with peers. An active and supportive online learning environment is crucial for effective collaborative learning, fostering participant engagement, motivation, and social

interaction (Hrastinski, 2009). By facilitating group discussions, debates, and feedback mechanisms, social media platforms foster the growth of critical thinking and problem-solving abilities as well as respect for one another and cooperation (Zhang et al., 2017)(Kocak,2021).

Engagement and Motivation in Collaborative Learning

Multiple research studies demonstrated that social media improves learner engagement and motivation in collaborative learning. Tess's (2013) research emphasises that social media's participatory and informal nature fosters more captivating discussions than conventional learning management systems (LMS). Integrating social media into educational settings allows for a smooth transition between personal and academic learning, resulting in higher levels of student involvement (Manca, 2020). Moreover, individuals who engage actively in collaborative learning using social media platforms tend to have elevated levels of motivation and pleasure. This can be attributed to these platforms' interactive and customised features (Cheung et al., 2011).

Challenges and Barriers

Although social media can bring advantages, its utilisation in collaborative learning poses several difficulties. A significant problem is the absence of organisation and explicit direction in educational settings that rely on social media platforms (Al-Rahmi et al., 2015). In contrast to conventional classroom environments, where the instructor's role is well-defined, social media platforms can occasionally result in unstructured debates that may veer away from the intended learning goals (Rodrigues et al., 2019). In addition, issues have been expressed around data privacy, information overload, and the quality of interactions on these platforms (Rambe, 2012). Students may also encounter distractions, as social media is primarily intended for amusement, resulting in diminished concentration on academic objectives (Selwyn, 2012).

Social Networking in Various Contexts for Education

Social media's effectiveness for collaborative learning varies based on the disciplines and educational situations. Studies have shown that social media is particularly helpful in higher education settings because students there are often self-taught and familiar with digital resources (Aghaee & Keller, 2016). For example, Junco et al., 2011 found that Twitter effectively promoted participation and teamwork in undergraduate education. However, a research by Greenhow and Lewin (2016) indicates that Social media's value in K–12 education may be limited by issues such as differences in students' degrees of independence and computer proficiency.

The Role of Educators in Social Media-Based Learning

The presence and supervision of the instructor are crucial factors in determining the success of collaborative learning using social media platforms. Although the platforms enable peer-driven interaction, multiple studies highlight the need for teacher facilitation in guaranteeing practical discussions and alignment with goals (Veletsianos, 2011). The instructor's position transforms from being a conventional source of knowledge to being a facilitator and moderator, responsible for guiding debates and ensuring the achievement of learning objectives (Chugh & Ruhi, 2018). Studies indicate that educators who possess digital literacy skills and actively participate in social media are more successful in incorporating these platforms into the educational experience (Manca & Ranieri, 2016).

Research Question

How can using social media platforms promote collaborative learning, and what are the accompanying advantages and difficulties in improving engagement, information dissemination, and peer interaction across various educational settings?

Methodology

Study Design

The PRISMA “(Preferred Reporting Items for Systematic Reviews and Meta-Analyses)” requirements are met by this systematic review to guarantee an impartial and thorough investigation of the impact of social media on promoting collaborative learning. An exhaustive search of scholarly literature was carried out using academic databases, which included-Google Scholar, Scopus and ERIC (Education Resources Information Center). The search queries were various combinations of the following keywords: "social media," "collaborative learning," "education," "peer interaction," "knowledge sharing," "engagement," "higher education," and "challenges." The search results were refined using Boolean operators "AND" and "OR". The study's inclusion criteria concentrated on publications from 2010 to 2023 in order to look at the most recent trends and advancements in the usage of social media in learning environments.

Inclusion and Exclusion Criteria

The following criteria were used by the review to choose the studies:

- **Inclusion Criteria:**
 - ✓ Studies investigating the application of social networks in educational environments, especially with collaborative learning.
 - ✓ Research articles published in the English language.
 - ✓ Articles written from 2010 to 2023 will be included to encompass the most up-to-date advancements.
- **Exclusion Criteria:**
 - ✓ Research that exclusively examines individual learning without any form of teamwork.
 - ✓ Studies investigating the influence of social media in non-academic settings.
 - ✓ Articles needing empirical proof, such as opinion pieces and theoretical papers.

PRISMA Analysis

The PRISMA framework led the systematic review (see Figure 1), which ensured a transparent and complete process. Here is an analysis of the essential stages involved:

Identification:

Initially, a comprehensive search of various databases, such as Google Scholar, Scopus, and ERIC, yielded 2000 entries. The main aim of this extensive search was to include a diverse array of relevant papers, ensuring a comprehensive compilation of research on the effects of social networking sites on collaborative education.

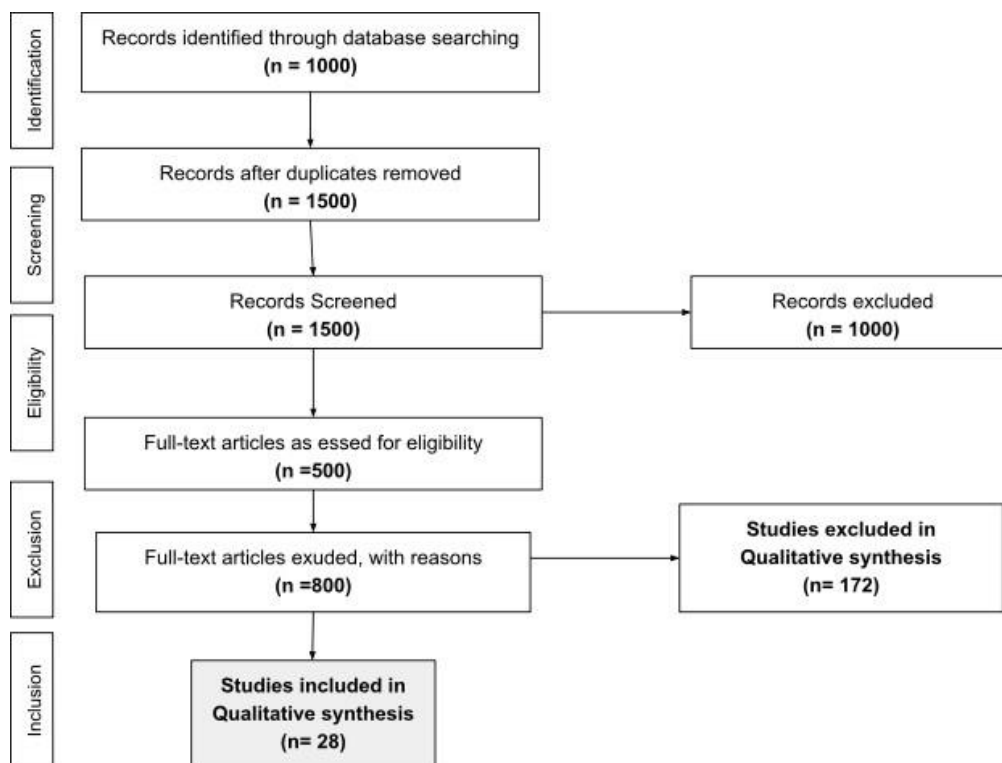


Figure 1. PRISMA Analysis Flowchart

Screening

After eliminating 500 duplicate entries, 1500 studies were left for further examination. The titles and abstracts were evaluated during this phase to ascertain their relevance to the study issue. The exclusion criteria encompassed research that did not center on collaborative learning lacked empirical data, or fell beyond the realm of education.

Eligibility

Out of the 1500 examined records, 1000 studies were eliminated because they were irrelevant or did not match the criteria for inclusion. Five hundred complete papers were remaining for a more thorough assessment. The eligibility assessment entailed a meticulous examination of the complete content of each article, with a specific emphasis on the quality of the research methods used, the pertinence to collaborative learning, and the impact of social media.

Exclusion

Among the 500 full-text papers evaluated, 300 were eliminated due to inadequate methodological rigour, insufficient emphasis on collaborative learning, or 172 studies for little information regarding the educational application of social media.

Inclusion

In the end, 28 studies were considered appropriate for the final synthesis.

Results and Discussion

Knowledge Sharing and Resource Exchange

Seventy-five per cent of the research concentrated on the importance of social networking sites in facilitating information dissemination and resource exchange among learners. Facebook, WhatsApp, and Google Classroom were recognised as critical platforms for disseminating information, facilitating immediate collaboration, and improving peer feedback. According to learners, the platforms' accessibility and the simplicity of sharing content enhanced their learning experiences, especially when collaborating on group projects or assignments. Manca and Ranieri (2016) highlighted how social media may support non-formal learning environments that encourage idea sharing and deeper understanding of the topic matter.

Enhanced Peer Interaction and Communication

Around 70% of the research indicated that social media significantly improved peer contact. Students could enhance their communication skills in real time and at different times by utilizing various communication platforms such as discussion forums, messaging applications, and video conferencing tools. As a result, there was enhanced cooperation and a feeling of camaraderie. A study by Gunawardena et al. (2014) revealed that students had a stronger feeling of connection and were more likely to engage in substantive discussions on social media platforms compared to traditional learning management systems (LMS). In addition, social media facilitates the connection between students in different geographical regions, allowing them to interact effortlessly.

Increased Learner Engagement and Motivation

The results of 60% of the studies indicated that social media positively impacted student engagement and motivation in collaborative learning environments. Social media's interactive and individualized character prompted learners to actively debate, express ideas, and provide feedback. A study by Dabbagh and Kitsantas (2012) discovered that students who utilized platforms such as Twitter and Instagram exhibited greater engagement with course material and elevated levels of intrinsic motivation. Including gamification components, such as likes, comments, and badges, played a significant role in maintaining learners' motivation and commitment to their educational advancement.

Lack of Structure and Distractions

Although social media in collaborative learning has benefits, 50% of the studies expressed reservations about the accompanying problems. The predominant concerns mentioned were the absence of organization and interruptions. According to Al-Rahmi et al. (2015), if debates on social media are not adequately moderated, they may deviate from the main issue, resulting in decreased productivity. In addition, while beneficial for communication, social media sites like Facebook and Instagram have also introduced distractions, as students frequently engage with non-academic information during their studies (Rodrigues et al., 2019). These distractions frequently diminished the efficacy of collaborative learning endeavors.

Role of Instructors in Social Media-Based Learning

Approximately 45% of the studies highlighted the significance of the instructor's participation in collaborative learning using social media. Veletsianos (2011) conducted research demonstrating the importance of instructor presence in steering conversations and achieving learning objectives. Without instructor supervision, learners may deviate from the desired academic objectives. Teachers who actively utilized social media created a collaborative atmosphere promoting learning more effectively (Kumi-Yeboah et al., 2020).

Varying Effectiveness Across Educational Levels

According to 40% of the research, social media's suitability for group learning varies with educational attainment. Within higher education, where students possess greater independence and proficiency in digital technology, social media has demonstrated its efficacy as a powerful tool for fostering collaboration. Junco, Heiberger, and Loken (2011) demonstrated that Twitter was highly effective in facilitating collaboration within university settings. But in the context of K–12 education, social media use faces difficulties because of disparities in digital literacy and a lack of self-control (Greenhow & Lewin, 2016).

Positive Impact on Critical Thinking and Problem-Solving

According to about 35% of the studies, social media improved students' ability to think critically and solve problems. Students can study, assess, and debate topics in public on websites like LinkedIn and YouTube, which helps them acquire advanced cognitive skills (Hrastinski, 2009). Collaborative problem-solving tasks were exceptionally efficient via group chats, live streaming, and shared digital workspaces.

Social Presence and Learning Community Development

In the end, thirty percent of the studies emphasized the value of social interaction and the creation of online learning communities. Students who had a sense of social presence and connection with their classmates were more likely to engage in group projects and knowledge sharing, according to research by Gunawardena et al. (2014). Social media facilitated the formation of supporting networks among learners, enabling the free flow of comments and ideas, thus enhancing the overall effectiveness of the learning process.

Discussion

The systematic analysis of 28 publications uncovered compelling evidence that social media has a substantial influence on collaborative learning in a variety of educational environments.

Social-networking applications like Facebook, WhatsApp, and Twitter are certainly emerging tools to disseminate knowledge, ignite peer interaction, and enhance learner involvement (Ulla & Perales, 2021). These factors all contribute to the creation of more interactive and engaging learning environments. The advantages that have been identified include the facilitation of both synchronous and asynchronous communication among learners, the provision of peer feedback, and the sharing of resources (Dabbagh & Kitsantas, 2012; Manca & Ranieri, 2016). Several scholarly investigations have underscored social media's ability to broaden the purview of education beyond traditional classroom settings. This is in line with the claim made by Greenhow & Lewin (2016) that social media blurs the line between formal and informal education, encouraging students to learn outside of controlled classroom settings. This empowers students to exercise greater autonomy over their learning process, thereby promoting independence and self-regulation (Dabbagh & Kitsantas, 2012). These findings are further substantiated by Junco et al. (2011), who underscore the potential of platforms such as Twitter to improve academic outcomes and increase student engagement. In their investigation, students who engaged in Twitter-based discussions exhibited greater academic performance and were more highly engaged (Erhel et al., 2022). In the same vein, Aghaee and Keller (2016) emphasized the critical role of ICT-supported peer interactions through social media in Bachelor's and Master's thesis courses, which improved the quality and profundity of student collaboration.

Despite these benefits, the analysis also identified a number of drawbacks concerning to the use of social media in collaborative learning. Numerous research have revealed that the potential for distractions is a prevalent issue (Kolhar et al., 2021) & (Masood et al., 2020). Al-Rahmi et al. (2015) and Rodrigues et al. (2019) both acknowledged that students' attention may be diverted from learning objectives by non-academic materials on social media. Additionally, Manca and Ranieri (2016) observed that the collaborative learning experience was significantly diminished by the absence of structured guidance from instructors, which frequently resulted in discussions that deviated from the primary subject matter. The efficacy of social media varies across various educational levels, which is another critical issue. The integration of social media into the educational process is generally more advantageous for students in higher education, as they possess a higher degree of self-regulation, digital literacy, and autonomy (Al-Rahmi et al., 2015). Conversely, students in primary and secondary education or those who are younger may encounter difficulties in developing the self-discipline necessary to effectively utilize social media for educational purposes. The systematic review promotes social media integration that is purposeful and well-thought out, as this can greatly improve collaborative

learning. Instructors are crucial in this process because they moderate debates, provide clear guidelines, and make sure students stay focused on the learning objectives. Many academics, like Tess (2013) and Cheung et al. (2011), advocate for the use of structured frameworks where teachers actively participate in social media-based learning settings. This level of engagement can mitigate off-topic discussions and guarantee that students capitalize on the collaborative opportunities offered by these platforms (Zabidi & Wang, 2021). Additionally, Rambe (2012) promotes a critical discourse analysis approach, in which instructors foster meaningful dialogue and reflection among students in social media environments. This method cultivates a more profound level of critical thinking and engagement, thereby enhancing the collaborative learning experience. Peeters & Pretorius (2020) also underscore the significance of establishing online communities of practice, which enable learners to exchange experiences and collaborate on problem-solving tasks, thereby expanding the collaborative learning process beyond mere knowledge exchange. Social media provides a dynamic and adaptable platform for collaborative learning (Qureshi et al., 2023), which offers substantial advantages in terms of learner engagement, resource sharing, and peer interaction. However, for it to reach its full potential, educators need to participate actively and prepare ahead carefully. Instructors can improve the usefulness of social media in promoting collaborative learning by addressing challenges such as distractions, lack of organization, and variable student autonomy (Thomas & Akdere, 2013).

Suggestions and Recommendations Derived from the Reviewed Articles

- a) **Integrating structured activities on social media** involves organized tasks in social media platforms to prevent unrelated diversions and maintain a concentrated academic environment, as shown by numerous researches (Hernández, 2024). Instructors must provide explicit instruction for conversations and tasks, ensuring that they align with the intended learning outcomes.
- b) Research, such as the study conducted by Veletsianos (2011), highlighted the significance of the **active involvement of instructors** in facilitating learning through social media. Instructors are responsible for facilitating discussions, supervising group activities, and offering feedback to ensure students remain actively involved and focused.
- c) The publications that have been analyzed showed that **choosing a platform** is integral to the success of social media integrated learning. Social media sites like Instagram, WhatsApp, Facebook, and YouTube were acknowledged for their user-friendly interfaces and collaborative capabilities (Kumar et al., 2020). Nevertheless, platforms with fewer diversions or expressly tailored for educational use (such as Google Classroom or Edmodo) may be more efficient.
- d) **Facilitating Cooperative Problem-Solving Assignments:** The act of fostering cooperative problem-solving and critical thinking assignments on platforms such as LinkedIn and YouTube has enhanced cognitive abilities. Instructors should provide activities requiring students to participate actively in analysis, critique, and debate.

Pedagogical Implications

The usage of social networks in collaborative learning has significant educational implications. Social networks enable students to engage with one another in a more dynamic and informal learning environment, rather than confined to traditional classroom settings. By

leveraging familiar channels, instructors may access students' comfort zones, promoting increased participation and engagement. Nevertheless, this transition necessitates educators to reassess conventional teaching responsibilities, transforming from mere conveyors of knowledge to facilitators of learning who steer conversations and facilitate collaboration. Furthermore, social media facilitates the formation of worldwide educational communities, enabling students from diverse geographical areas to collaborate and communicate, promoting cross-cultural interaction. This aligns with the growing demand for 21st-century abilities, like collaboration, effective communication, and proficiency in digital technology, which are crucial for success in the modern era.

Conclusion

This systematic review has shown that social media can effectively facilitate collaborative learning, offering advantages such as improved peer contact, higher knowledge sharing, and enhanced student engagement. However, there are many barriers to social media's effectiveness in education. Collaborations can be hindered by distractions, planning, and insufficient teacher participation. Nevertheless, for social media to be completely efficient in educational environments, it is imperative to tackle obstacles such as the absence of organization, interruptions, and worries regarding privacy. Given the ongoing study development in this area, it is imperative to investigate novel approaches and frameworks to guarantee that social media contributes positively to collaborative learning experiences rather than diminishing them. The systematic study's conclusions show that social networks can significantly influence the development of collaborative learning, particularly in areas like learner involvement, peer communication, and information sharing. Nevertheless, it is crucial to tackle obstacles such as the absence of organization, interruptions, and the necessity for proactive instructor engagement to optimize the advantages. In order to properly harness the potential of social media in education, instructors must actively engage in guiding and supervising online debates. At the same time, students must receive training on efficiently utilising social media platforms for academic reasons. Moreover, the selection of a platform is of utmost importance. Platforms with fewer distractions and a wide range of instructional tools are more suitable for organized collaborative activities. Educators can use social media to establish lively, dynamic, and significant collaborative learning experiences by incorporating organized activities, encouraging digital literacy, and guaranteeing teacher involvement.

Future Directions for Research

Despite a wealth of study on the subject, there are still many unanswered questions regarding social media's influence on collaborative learning. Future research should look into how social media use affects academic achievement over the long run and how to make these platforms better for a variety of age categories and topic areas. Moreover, more research is needed to look into the development of models and frameworks that ensure purposeful and well-organized interactive learning on social networking platforms (Zhou et al., 2015). Further investigation is needed to investigate the ethical implications of data privacy and academic integrity.

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Conflicts of Interest

Authors declare no conflicts of interest.

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