

Social Media as a Learning Tool: Impacts on Collaborative Learning and Knowledge Sharing

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Abstract: Through social media university students now work together more easily to learn and share knowledge with one another. Our research explores how YouTube WhatsApp and Facebook Groups boost student communication about learning material and assist classmates in accessing resources. Personal studies through set questionnaires helped measure student responses about their study process. Students showing more interest in social media showed better results in their studies at university ($r = 0.72$, $p < 0.01$) with the found relationships being statistically significant ($\beta = 0.58$, $p < 0.01$). Students struggle to focus on their studies because of distractions (60%), get misinformed (46.7%) while other part feels uneasy about privacy (36.7%). The data matches learning theories based on student interactions and individual-led educational methods. This exploration helps build digital learning knowledge by giving useful information to teachers and government officials. The research shows that institutions and schools should develop social media training and rules to help students use media platforms successfully in education. Next studies will evaluate long-term effects of AI systems plus education methods to support better educational results.

Keywords: Social Media, Collaborative Learning, Knowledge Sharing, YouTube, Facebook, Whatsapp

Introduction

Social media platforms have transformed how people interact and exchange information and maintain communication while using their technologies. Facebook along with Twitter and LinkedIn and YouTube alongside Instagram started as social networking tools until they matured into effective learning platforms and knowledge sharing resources (Reinhardt et al., 2019). The fundamental educational role of social media today creates opportunities for student involvement together with collaborative educational interactions and academic conversation. Educational digitalization caused traditional classroom learning to transform into technology-based educational models that use social media platforms as virtual learning spaces (Blau et al., 2018).

The structure of traditional education depends on using textbooks and implementing lectures with added face-to-face discussions. Traditional teaching methods support education development, yet they restrict students' immediate contact with each other and both practicality and modern high-speed learning requirements (Shu et al., 2018). Through social media education gaps have been resolved because students can now participate in discussions and share resources and collaborate on academic tasks from any location. Virtual study groups along with online forums and video tutorials and webinars have become essential student resources which enable them to acquire more knowledge than school-based education (Ansam et al., 2021).

The main characteristic of social media when used as a learning platform is support for multimodal education. The approach of social media differs from standard educational techniques because it supports multiple content types through videos podcasts infographics and interactive quizzes which adapt to various substantial learning approaches (Procel et al., 2024). Students who learn better through sight rely on YouTube tutorials paired with educational infographics whereas those who process information better through hearing will get more from listening to podcasts and real-time discussions. Social media provides

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an inclusive learning environment because of its versatility, and this allows learners to retain knowledge better.

The way we understand collaborative learning has changed through social media by giving students the opportunity to engage with each other at a peer level. Through online platforms students have access to group study spaces where they can use Microsoft Teams together with Google Drive to work cooperatively on their assignments and participate in comment-based discussions (Chen et al., 2023). The collaborative aspect of social media fosters problem-solving skills between students as it builds critical thinking abilities along with shared knowledge construction. Social media creates a two-way educational process where knowledge moves beyond the traditional downward direction between teachers and students toward open interactions between all participants.

Online discussion forums and e-learning platforms started rising in popularity during the early 2000s to become the foundation of social media in education. Mainstream social media outlets brought about the real shift that transformed education during their emergence (Kellner et al., 2019). The platform Facebook established group capabilities in 2004 to enable students the creation of educational communities through which they could exchange knowledge. YouTube transformed into a worldwide educational platform which provided people with video lessons as well as teaching tutorials and subject explainers from 2005 onward. The platform which started as a professional platform for business networking grew into LinkedIn Learning by adding educational content capabilities.

The growing availability of smartphones along with Internet access enabled quick adoption of social media tools for educational purposes. Teachers applied Twitter as an instructional tool to promote academic dialogue when they added hashtag topics and multistory threads to their teaching activities. Instant information sharing via WhatsApp and Telegram groups strengthened the essential communication pathway between students and teaching staff for time-sensitive knowledge exchange. Remote learning became mandatory for education during the COVID-19 pandemic because of how essential social media had become for educational purposes. The growing digital dependence for educational purposes became evident when online collaboration tools such as Zoom and Google Meet and Microsoft Teams experienced enormous popularity increases.

The implementation of social media content in educational spaces comes with various advantages although it poses several complications in its use. Some problems regarding the trustworthiness of information combined with digital interruptions and privacy risks have prompted doubts about using social media as an official educational instrument (Van Den Beemt et al., 2020). Through its unfiltered format social media enables information distribution from any person which creates difficulties for students to verify academic material against biased content. Prolonged social media engagement leads students to experience diminished productivity because of the distractions it causes. There is ongoing research at both the educator and policymaking levels to maximize the benefits of social media through strong challenge management.

Literature Review

The implementation of the social media as a teaching tool of learning is an area of subject of focus in the academic circles, with researchers looking at social media as having positive impacts on collaborative learning, knowledge sharing and engagement of the learners. Several research has been conducted that looks at the role of technology in the learning environment, mainly, in the interaction between students and the availability of learning resources. This part in particular discusses theories of the given topic, advantages of using social media in the learning process, knowledge sharing with the help of the social media, and outlined challenges.

Theoretical Perspectives on Social Media in Learning

From the literature, there are several learning theories that explain a role of social media in education. The most closely related theory is the CLT (Constructivist Learning Theory) that states that learning is a process that occurs through interacting and collaborating as well as through practical experience

(Marougkas et al., [2023](#)). This boss theory is well supported by social media platforms since students can interact with other students, share views on various issues and even work cooperatively in group projects. Another feasible framework is the Connectivism proposed because it particularly focuses on knowledge gaining through the use of digital technologies. Based on this theory, learning is acquired through the web, students interacting with students, teachers, and tutors among others (Dziubaniuk et al., [2023](#)). Social media allows for such connections, making it easier for the learners to have an insight of some of the existing view and new developments in the academic and working arena.

Social Learning Theory that learning occurs through modelling also applies to students. Facebook, Twitter and Google Classroom, for example, students create learning by observing instructional videos, tutorials and online discussions.

Social Media and Collaborative Learning

Collaborative learning refers to the approach where learners work in a group to achieve common objectives or goals, get information, ideas or solve problems. Research has pointed out that social networking is beneficial in enhancing this kind of education. Social media increases the practical interaction among students: by building virtual social groups the students participate in real discussions and exchange materials for class (Bender et al., [2023](#)). Group stations like Facebook groups, WhatsApp study circles and Google classroom can help the students get more knowledge of the subject when they are outside the classroom as well as enhancing their problem-solving skills.

Social media leads to student engagement in learning since it is more engaging, and the student is more participative. While normal classroom environment restricts discussion sessions to the allocated time, social media permits peer-interaction at all times (Qureshi et al., [2023](#)). This is particularly helpful since it allows students to refresh themselves on a particular topic which may have been developed in previous discussions for further clarification through asking questions to fellow students or the lecturer.

Those students who use social media for the discussion within group assignments, are more effective in teamwork, creativity, problem solving than those students who only use conventional means of communication. Since posts and comments do not appear in real-time, learners have an opportunity to give deeper thoughts when writing their response.

Social Media as a Tool for Knowledge Sharing

Sharing of knowledge is crucial for education, and through social media students and instructors can share knowledge in the form of class notes, research information, educational content, among others. The most popular Web 2.0 platforms like YouTube, Linked and Twitter serve as knowledge pools for students with a variety of information not available in books (McHaney et al., [2023](#)).

students who engage in sharing of knowledge on social media have a better performance as a result of taking part in the knowledge sharing activities. Through discourse, contribution of academic articles, and communication with working specialists, learners enhance their subject knowledge. Besides, Quora, Reddit, and ResearchGate provide forums for seeking an expert opinion and seeking advice, as well as sourcing scholarly articles that may not be easily accessible within institutions (He et al., [2022](#)).

Thirdly, through social media, students from different faculties interact with one another; this encourages inter-disciplinary learning as well as improves the learners' critical thinking abilities. For example, a business student can engage in technology forums to know their effects on marketing and thus have an all-round view of the subject.

The Role of Social Media in Self-Directed Learning

Self-directed learning represents a modern educational standard where students guide their own studies by choosing their goals and finding information without direction. Social media platforms let students easily access their SDL process by finding different learning materials, experts and discussion groups (Pimdee et al., [2023](#)).

Regular YouTube educational content viewers understand subjects better than those who depend on printed textbooks because these students learn both facts and solve problems. Twitter and LinkedIn connect students to experts who teach about their professional subjects while allowing them to join study groups and online academic talks where they can learn constantly.

Social media allows students to access Massive Open Online Courses (MOOCs) developed by top universities at minimal charges or no cost (Waks et al., [2019](#)). Students enhance their independent learning process through social media options like discussion boards and teamwork assignments on MOOC platforms.

Students need to block out distractions and assess online information carefully for SDL through social media to be effective (Alsharif et al., [2022](#)). Students need strong internal discipline to focus on course materials when learning autonomously through social media platforms because these platforms show non-school content. Teachers should teach students to handle digital media responsibly plus develop smart Internet behavior to enhance their self-directed learning process.

The Impact of Social Media on Teacher-Student Interaction

Social media platforms now let teachers interact with students on multiple levels beyond conventional partnerships. Social media lets teachers and students stay connected through free-flowing communication that goes beyond regular classroom hours to school online (Amoyaw et al., [2023](#)).

Social media helps teachers and students build a friendly and professional learning place because students prefer using these platforms for interaction. Facebook groups Telegram channels and Google Classroom make rooms for students to talk about schoolwork get help with their assignments and discuss educational subjects outside normal classroom hours (Merelo et al., [2024](#)). Students find it simpler to join in educational activities and they feel more connected to their schoolwork as a result.

Social media helps teachers create learning content that matches individual student requirements. Incorporating social media tools helps teachers build better learning content and presents visual study resources. Introverted students often join these activities more eagerly when teachers use social media in teaching.

Challenges and Limitations of Social Media in Education

Although, use of social media in education has several advantages, it is not without challenges. Information credibility is one of the most important issues. Social media is open and social media content is published without any border, anyone can publish without taking care of quality of work, so making it very hard to determine what a reliable source of academic work or information is and what is just nonsense. Students have no idea how to assess the credibility of online sources and thus risk consuming and spreading false information.

Digital distraction (i.e., distraction from excessive social media use) is another challenge, and too much of social media can negatively influence in academic performance, since students become distracted by nonacademic content. However, constant use of social media for notifications, entertainment and social interactions will deprive one of focus and productivity, hence a necessity for students to develop self-regulation strategies when using social media for educational purposes.

It also presents considerable challenges in the form of privacy and security concern. Be forewarned that many social media platforms collect user data, which implications have significant consequences on student privacy and data protection. Policies of use of social media should be designed and implemented by institutions to ensure the social media are used securely and responsibly in educational settings.

Methodology

The research adopts a quantitative analysis to study social media's effects on student collaboration for learning and knowledge dissemination. The purpose of this research method exists to gather numbers about social media educational effectiveness through statistical pattern identification. A survey

methodology stands as the foundation to measure student behavior regarding their attitudes and academic achievement alongside social media for educational purposes.

Research Design

The study employed descriptive survey research design because it enables researchers to gather standardized information from numerous study participants. This design suits the assessment of student social media interactions with educational purposes as well as their impact on cooperative learning and concept sharing methods. The research uses a cross-sectional design to gather one-time data for examining current phenomena and variable associations.

Population and Sample Size

Students enrolled in undergraduate programs from different fields who utilize social media for their coursework make up the target research subjects. Students representing distinct academic areas joined the research to achieve a full understanding of how social media affects different educational fields.

To gather data researchers adopted random sampling which led to the recruitment of 300 university students across different educational institutions. The researcher determined 300 student participants are enough for drawing valid conclusions from this population. Research participants needed to demonstrate experience with one or more social media channels including Facebook and YouTube and Twitter and LinkedIn and WhatsApp for their academic requirements of discussions and resource sharing and group work.

Data Collection Method

The main data collection tool consisted of a structured questionnaire during this investigation. The research instrument used a questionnaire which collected both personal background information and noted important indicators associated with social media learning applications. The survey was made available through university mailing lists combined with Google Forms online platform for convenient participant response accessibility.

Two different sections appeared within the questionnaire.

Demographic Information:

- The participants provided information about their age together with their gender and their level in university and their area of study.
- Students reported their usage of social media platforms for academic tasks on a regular scale.

Social Media and Learning Variables:

- The educational activities conducted through Facebook, YouTube, WhatsApp, and LinkedIn serve as platforms.
- Frequency of engagement in academic discussions and collaborations
- Users evaluated social media tools positively as effective methodologies for better academic achievements.
- Impact of social media on teamwork and knowledge retention
- Students encounter numerous difficulties when using social media for learning that include interruptions and false information together with privacy issues.
- Participants assessed the aspects of social media in education through a 5-point Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree).

Data Analysis

Statistics Package for the Social Sciences version 26 processed the gathered data which researchers coded through analysis. Statistics included mean values together with standard deviation information and frequency distribution data served to describe the data patterns.

The relationship between social media use measure and collaborative learning and knowledge sharing measurement was evaluated through inferential statistical methodologies.

- Pearson correlation analysis determined the degree of relation between students who used social media and their assessment of academic collaborative improvement.

- The researchers used regression analysis methods to evaluate how well social media use predicted knowledge retention alongside teamwork performance.
- Different student groups comprising first and second year students and those using social media occasionally or frequently underwent a perception analysis through ANOVA (Analysis of Variance).

Reliability and Validity of the Instrument

The questionnaire underwent a preliminary investigation involving 30 students which enhanced the survey's reliability before executing it on a larger scale. The testing of questions in the initial phase helped to create more transparent and reliable survey questions. The assessment for internal consistency employed Cronbach’s alpha coefficient which produced a reliability score of 0.82 indicating strong reliability in the study measurements. Some professors in educational research along with academic experts assessed the questionnaire to verify its ability to measure correctly the proposed constructs. The survey items contained valid content because researchers compared them to existing studies about social media use in educational contexts.

Ethical Considerations

Prior to research execution the affected universities provided ethical permission for the project. Participants received data about the research goals before obtaining consent to answer the survey. All participants received guarantee of personal information privacy as well as response confidentiality throughout the survey process which was entirely optional. Students also maintained full freedom to end their participation at any time.

Limitations of the Methodology

Several robust quantitative limitations affect this research even though it uses robust quantitative methodology.

- Participants who completed surveys had the potential to give inaccurate information regarding their social media usage due to self-reported data acquisition methods.
- The single-point data collection from the study cannot show changes that might have occurred in student social media usage for educational purposes over extended periods of time.
- The research findings from university students cannot be properly applied to any other educational level beyond university due to the restrictive study sample method.

Results

The survey on usage of social media as a learning tool was conducted with 300 university students and the findings of the survey are presented in this section. Descriptive statistics, correlation analysis and regression model are used to analyze the results which are also presented in a tabular format along with detailed interpretations.

Demographic Characteristics of Respondents

The participant demographic profile gives information on the composition of the sample.

Table 1

Demographic Characteristics of Respondents

Variable	Category	Frequency (N=300)	Percentage (%)
Gender	Male	160	53.3
	Female	140	46.7
Age Group	18 – 21 years	110	36.7
	22 – 25 years	145	48.3
	26 and above	45	15.0
Academic Year	1st Year	80	26.7
	2nd Year	95	31.7
	3rd Year	70	23.3
	Final Year	55	18.3

The gender distribution of the participants is fairly even with 53.3% male participants and 46.7% females. From the age distribution, it is evident that the majority of respondents are within the 22–25 age group, thus the respondent sampled is university students normally in their early and middle 20s who are involved in learning through social media. As for their academic year of study, 43 students were second year students 31.7% while the third-year students were 23.3%. This implies that the usage of social media as a learning material rises as the level of education structures rises.

Frequency of Social Media Use for Learning

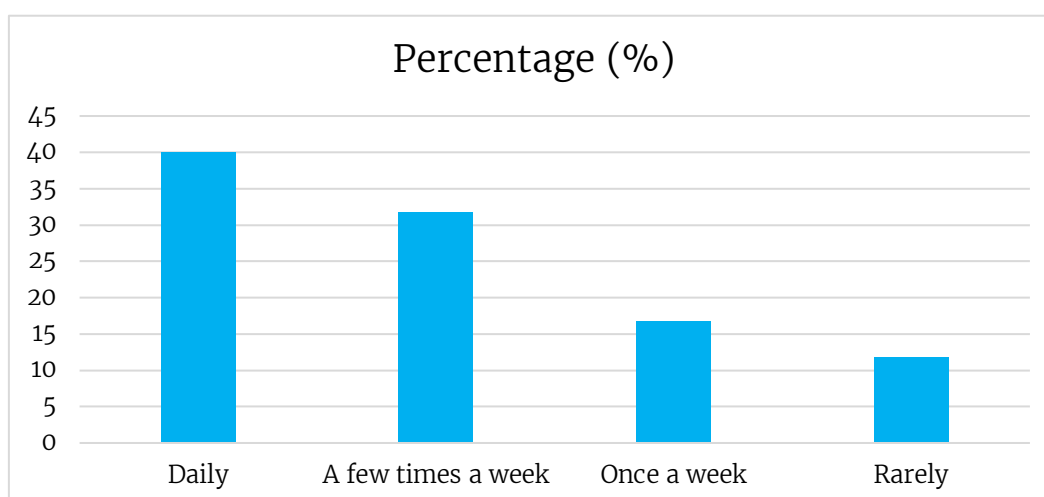
The questions are about how frequently respondents use social media for academic purposes.

Table 2

Frequency of Social Media Use for Learning

Usage Frequency	Frequency (N=300)	Percentage (%)
Daily	120	40.0
A few times a week	95	31.7
Once a week	50	16.7
Rarely	35	11.7

Figure 1



This reveals that 40% of students frequently engage in academic activities through social media which showcase their importance in society nowadays. Another 31.7% use it occasionally, which means that the social media is among the main sources used for regular knowledge update and cooperation. However, 11.7% of students reported they hardly or never use of social media for learning because of several reasons such as preferences and restrictions to such learning resources and facility.

Preferred Social Media Platforms for Learning

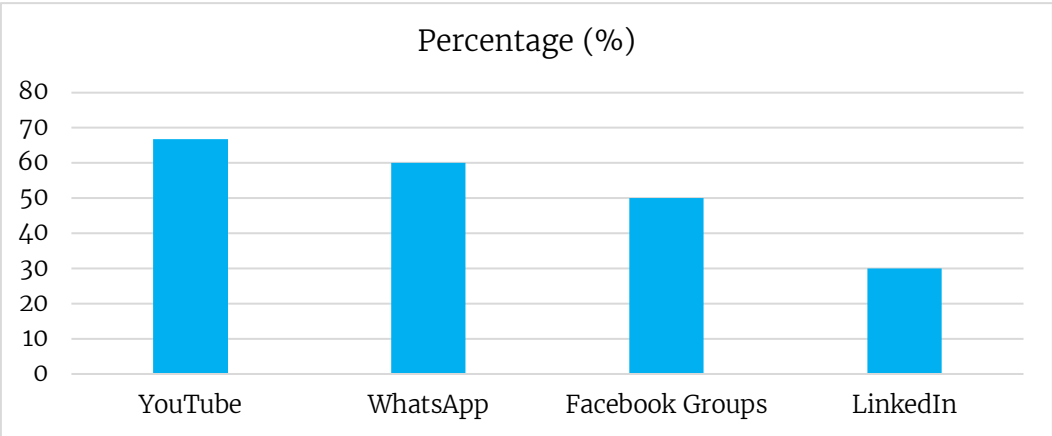
Participants were then asked to state on which of the selected platforms they most frequently engage in any kind of academic purpose.

Table 3

Preferred Social Media Platforms for Learning

Social Media Platform	Frequency (N=300)	Percentage (%)
YouTube	200	66.7
WhatsApp	180	60.0
Facebook Groups	150	50.0
LinkedIn	90	30.0
Twitter	75	25.0

Figure 2



The results show that among students, the most frequently used source is YouTube, and it has been established that the use of videos is dominant in education with 66.7%. WhatsApp 60% and Facebook Groups also take positions in the list of the most used sources meaning that students engage in Instant messaging and group discussions to share knowledge. However, LinkedIn received only 30% and Twitter received 25% responses which show that professional networking as well as micro blogging sites are less preferred for carrying out academic collaborations.

Impact of Social Media on Knowledge Sharing

The respondents were asked to rank the degree to which social media leads to knowledge sharing.

Table 4
Impact of Social Media on Knowledge Sharing

Level of Agreement	Frequency (N=300)	Percentage (%)
Strongly Agree	140	46.7
Agree	110	36.7
Neutral	30	10.0
Disagree	15	5.0
Strongly Disagree	5	1.6

According to students’ perception, 83.4% admit that social media is effective in enhancing the sharing of knowledge in the course, hence, facilitate collaborative learning. This makes it clear that most students accept social media as a good application in matters concerning educational discussions, students’ support and group projects.

Correlation Between Social Media Use and Collaborative Learning

Finally, a Pearson correlation analysis was conducted, and it was used to ascertain the correlation between social media usage and collaborative learning.

Table 5
Pearson Correlation Between Social Media Use and Collaborative Learning

Variable	Social Media Use	Collaborative Learning
Social Media Use	1.00	0.72**
Collaborative Learning	0.72**	1.00

From the correlation analysis, most of the students’ social media usage is positively and significantly related with collaborative learning, where the correlation coefficient is equal to 0.72 and the p value being less than 0.01. That way, the findings suggest that students who utilize the social media for academic purposes are more likely to be actively involved in the class discussions, peer to peer knowledge sharing

and undertaking of group tasks. With this significant correlation supporting the idea, it is crystal clear that social media practices can be used greatly in promoting teamwork in education.

Regression Analysis: Predicting Academic Performance from Social Media Use

A regression analysis was conducted in order to determine if academic performance can be predicted by social media use.

Table 6
Regression Analysis of Social Media Use on Academic Performance

Predictor Variable	Beta Coefficient (β)	t-value	Sig. (p-value)
Social Media Use	0.58	6.72	0.000**
Constant	-	-	-

In the case of academic performance, the results suggest there is confirmation of hypothesis 1, which postulated that there is a positive correlation between social media use and academic performance given that all the coefficients of social media are positive and statistically significant as seen from the regression coefficients beta equal to 0.58 with a test of significance less than 0.01. This implies that by incorporating the social media in the student learning activities, the students will record higher achievement than those who do not. The beta coefficient shows a positive correlation between the h2a2 variable of structured use of SMM for education and students' knowledge retention and academic success.

Challenges of Using Social Media for Learning

The survey also highlights the main challenges that young people encounter while using social media in their educational engagements.

Table 7
Challenges of Using Social Media for Learning

Challenge	Frequency (N=300)	Percentage (%)
Distractions	180	60.0
Misinformation	140	46.7
Privacy Issues	110	36.7
Lack of Credibility	90	30.0

Understanding the challenges shows that distractions (60%) present the major form of hurdle since students will find it difficult to remain focused on content shared in the social media sites. Misinformation (46.7%) is also an issue, meaning that students work with semi-relevant or even blatant falsehoods regularly. In other cases, listed concerns that 36.7% of the students are concerned with the privacy of information shared online thus do not interact in the same way with the sources while 30% doubt the credibility of the information shared online.

Discussion

This study uncovers important details about how social media helps students learn with others and share understanding. This section reviews the analysis findings by exploring existing research and their practical applications. It also studies the theoretical concepts behind this research and resolves the issues discovered in this study.

Social Media as a Facilitator of Learning

Social media helps teach students in today's world because many students spend their daily academic time on these platforms. The findings match beliefs that social media improves both study participation and online resources plus group interaction. Students find YouTube and WhatsApp plus Facebook Group platforms most helpful for their education because they offer interactive and convenient ways to learn. Students prefer learning mainly through digital tools because their presence shows how education methods are now digitally driven. Students learn better when they get access to live information they can

share with classmates while working with multimedia content. The research data proves once more that students learn best when they interact socially while working together with others according to constructivist learning theory.

Impact of Social Media on Knowledge Sharing and Collaborative Learning

The data shows that engaging with social media strongly helps students work together better ($r = 0.72$, $p < 0.01$). Students who use social media for school purposes also take an active part in collaboration, group work and peer knowledge exchange across these platforms.

The research showed that 83.4% of people think social media helps spread knowledge better while demonstrating its online knowledge sharing function. The study matches with the teachings of Connectivist Learning Theory which explains knowledge develops and moves digitally across networks where students link them for knowledge exchange outside traditional school contexts. Through social media students learn from multiple perspectives which helps them deeply understand their school subjects.

Challenges of Using Social Media for Learning

This research demonstrates that social media supports education but also reveals important difficulties in its usage for learning. People struggle to focus because 60% of students say social media hinders their concentration. While social media helps learning it becomes less effective when students use it wrong.

Students find it difficult to recognize authentic sources because almost half of them report dealing with false information on social media (46.7%). Students must learn to evaluate digital content by adding academic lessons that teach them proven methods to assess source reliability and spot valid educational materials from misleading information.

Students face both privacy issues (36.7%) which make them uncomfortable sharing personal information online and doubts about the accuracy of posted content (30%). Many students refuse to divulge their knowledge online because they worry about hacking, cyber-attacks, and misuse of their personal data. Educational institutions need to teach students how to use social media in group work while keeping their personal information protected.

The Role of Social Media in Academic Performance

Many students successfully achieve better academic results through their social media learning strategies (beta value 0.58 p value < 0.01). The difference between useful and useless social media activities needs to be understood clearly. Students using YouTube WhatsApp and Facebook Groups for academic purposes raises their learning abilities but spending too much time on entertainment and social networks hurts their study progress and grades. Students must develop their ability to control social media use and manage their time effectively to make social networks help them learn better.

Limitations and Future Research Directions

The investigation brings important findings yet excludes a few limitations that affect its results. The research examined solely the student population at universities, so it becomes challenging to extend its findings to academic groups beyond university populations. Several biases exist in the research design as it depends on survey responses from participants regarding their social media usage.

Future research should explore

- Multiple research studies need to follow participants across time to understand how social media impacts student learning.
- This research evaluates the effect that particular social media features such as AI-driven learning tools and virtual classrooms have on student knowledge retention levels.
- Academic disciplinary investigations should evaluate which subjects generate the most benefits from social media learning approaches.

Conclusion

The research analyzed how social media serves as an educational resource particularly through its effects on university students' collaborative learning activities and knowledge transfer processes. Students now rely heavily on three major social media sites including YouTube and WhatsApp and Facebook Groups to study due to their accessibility of educational materials and opportunity for peer communication and academic collaboration. Frequent academic social media utilization produces superior effects on knowledge exchange between students and group collaboration patterns which develops from constructivist and connectivist learning principles dependent on interactive activities and network structures.

The research findings show a robust positive association ($r = 0.72$, $p < 0.01$) between student social media engagement and their ability to collaborate for learning purposes which leads them to better understand their course content. The regression analysis demonstrates social media usage as a vital indicator of academic achievement ($\beta = 0.58$, $p < 0.01$) because students who use social media for learning obtain better academic results.

This research points out specific problems which come with applying social media within learning contexts. Most students face three main barriers to maximizing social media for education because they are concerned about distractions (60%), bogus content (46.7%) and privacy risks (36.7%). The research demonstrates that universities should implement digital literacy education alongside responsible social media guidelines and institutional policies to help students receive maximum advantage from social media without encountering negative consequences.

The research findings show that formal education systems should adopt social media as a necessary component. Social media within structured goal-oriented settings should be supported by educational institutions alongside the development of digital education frameworks by policymakers which ensure credibility and security of online educational programs. Students need to establish self-regulation abilities which will help them control their focus on academic material while reducing digital interruptions.

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