



## Building Learning Communities with Social Media: A Qualitative Investigation into Facebook's Contribution to Collaborative Education Among Pakistani Undergraduates in Karachi

Dr Uzma Qazi<sup>i</sup>, Huma Shakir<sup>ii</sup>

i) Assistant Professor, Greenwich University, Karachi

ii) Comsat University, Islamabad, Abbottabad Campus

### ARTICLE INFO

#### Keywords:

*collaborative learning*  
*social media,*  
*Facebook, higher*  
*education*  
*technology*  
*acceptance model*  
*theory of planned*  
*behavior*  
*social constructivism*  
*Pakistan*

### ABSTRACT

The current study aimed to explore how Facebook is used to facilitate the creation of academic communities and collaborative learning among undergraduate students in Karachi, Pakistan. This research is founded on the TAM, TPB, and Social Constructivist Theory while assessing the potential of social media to foster communication among peers and engagement in sharing knowledge among students at higher education institutions. The findings were accrued through synthesizing the literature on the related topic using a qualitative study design. Results show that Facebook serves as an effective informal learning environment for students due to the promotion of collaborative learning in terms of peer support, immediate feedback, and learning material sharing, while the ease of use, social embeddedness, and accessibility guarantee students' motivation and ongoing participation in academic discussion.

The study also points out issues about distractions using non-academic content, privacy concerns, and absence of formal institutional policy. Despite the issues, Facebook is an easy-to-use and inexpensive system with huge potential to create student-centered learning and digital literacy at Pakistani universities.

This paper concludes that the embedding of Facebook within formal learning frameworks can enhance practice in blended learning and in the development of collaborative learning communities. It recommends engagement by faculty, development of institutional policies, and training in digital literacy as ways to foster effective and ethical uses of social media in education.

Corresponding Author: Dr Uzma Qazi; Email: [dr.uzmaqazi@greenwich.edu.pk](mailto:dr.uzmaqazi@greenwich.edu.pk)

Received: 9<sup>th</sup> February, 2026

Received in revised form: 24<sup>th</sup> February, 2026

Accepted: 24<sup>th</sup> February, 2026

The material presented by the authors does not necessarily represent the viewpoint of the editor(s) and the management of the Khadim Ali Shah Bukhari Institute of Technology (KASBIT) as well as the authors' institute © KBJ is published by the Khadim Ali Shah Bukhari Institute of Technology (KASBIT) 84-B, S.M.C.H.S, off Sharah-e-Faisal, Karachi- 74400, Pakistan



## **1. Introduction**

The rapid growth of digital technologies has transformed the way people communicate, collaborate, and learn. Higher education has further incorporated social networking sites such as Facebook into the academic and social lives of students for social interaction and knowledge sharing beyond the formal learning environment. Over the last decade, Facebook has evolved from a social networking website to an adaptive environment that fosters peer learning, engagement, and problem-solving. According to many scholars and educators worldwide, the role of social media is to potentially enable community building, reflective discourse, and collaborative learning (Biswas & Farhana, 2015; Ukwishaka & Aghae, 2020). The very basis of collaborative learning is the idea that knowledge is socially created through interaction, communication, and a shared experience. Facebook's social and interactive features, including groups, discussion threads, and instant messaging, allow students to share perspectives in real time, co-create meaning, and seek peer support. These interactions echo the principles of social constructivism and connectivism, which draw attention to the fact that learning is mediated through relationships and virtual connectivity. Research carried out in higher education settings has demonstrated that Facebook increases student motivation, participation, and collaboration (Ansari & Khan, 2020; Dutt, 2023). Despite these facts, due to its very high popularity and teaching potential, the role of Facebook as a learning object has been researched very little in some countries, particularly for developing education systems such as Pakistan.

Social media adoption for pedagogic practice is still in its developmental phase in Pakistani higher education. Universities based in urban cities like Karachi are fast adopting blended and online learning approaches, but little is known about how the students leverage social media to enable academic collaboration. Although there have been a few studies, such as that by Iqbal, Rehman, and Khushi (2016), investigating Facebook's usage as an educational tool within a university context, much of the existing research has adopted either quantitative or descriptive approaches, seeking to gauge usage frequency or the level of satisfaction without exploring the richness in the lived experience of students. Consequently, student voices, or what they believe and why they engage and the challenges with using Facebook for learning, have not been investigated. Filling this gap is important for understanding how digital engagement influences the formation of learning communities within the unique cultural and institutional environment of Pakistan.

The current research explores how Karachi-based undergraduate students use and perceive Facebook to be as a collaborative learning tool. A qualitative approach is applied to provide better insights into the construction, maintenance, and learning through the communities on Facebook developed by students. This is, in fact, a study probing how face-book uses have enhanced communication, coordination, and information sharing among undergraduate students, and the challenges experienced by them in trying to achieve the same. Such an exploration allows this research to provide rich insights into how e-learning communities emerge in developing world education settings and what role social media websites can play in enhancing students' engagement and peer-to-peer learning. Social constructivist theory is used as a basis for this research since it assumes that learning is a socially mediated process co-constructed in interaction; thus, it is



considered as an appropriate theoretical lens for guiding this research study (Vygotsky, 1978). Further, the Community of Inquiry model also is an appropriate model as it extends the integration of teaching presence, social presence, and cognitive presence within online learning environments (Garrison, Anderson, & Archer, 2000). Further, the Technology Acceptance Model describes how perceived ease of use and perceived usefulness influence people's acceptance of technology in learning environments (Davis, 1989). These two theoretical constructs taken together reflect how Facebook will be able to facilitate collaborative learning and community development in college undergraduates.

The importance of the study is both theoretical and practical. Theoretically, the study contributes to higher education studies on social media through qualitative insights from Pakistan-a country that was underrepresented in digital learning research. Practically, it gives implications for practice and policy to educators and policymakers interested in the integration of social media into pedagogy. Understanding how students are using Facebook to co-learn educates the instructional designers on how to design inclusive, participatory, and technology-enabled learning environments. Thus the thematica analysis is to attempt identification of the major patterns, meanings, and connections regarding collaborative learning on Facebook. This provides for an interpretative understanding of the social processes by which students construct and share knowledge in cyberspace. This study investigates the intersection of social media, collaboration, and higher education as a starting point to understand how Facebook is used as a platform for informal but effective learning. The objective will be to find out how virtual communication may promote academic community, peer support, and mutual understanding among undergraduate students based in Karachi.

## **2. Literature Review**

This literature review represents an overview of past research, theories, and models in relation to the use of social media-uscibly Facebook-to enhance collaborative learning among undergraduates. In this context, the research by Manca & Ranieri (2016) and Ainin, Naqshbandi, Moghavvemi, & Jaafar, 2015, synthesizes prior research to serve as the basis of the present study to identify possible gaps that need investigation. It covers a history of the place of social media within education, the concept of learning communities, and theoretical models explaining collaborative online environments.

### **2.1. Concept of Learning Communities**

Learning communities are groups of people who share common academic goals and interact with each other to enhance overall learning. They encourage peer-to-peer communication, reflective dialogue, and co-responsibility for learning. It is important to highlight that the whole concept relies on the belief that building knowledge is a social process that takes place through communication, mutual cooperation, and sharing of meaning among participants. Learning communities are related to increased student engagement and academic success, with a higher degree of belonging in a higher education context (Rovai, 2002). Online learning environments, which through such external exchange mechanisms as



social networking create a global sense of belonging and collaboration, by allowing for ongoing interaction and sharing beyond the face-to-face classroom (McLoughlin & Lee,2010; Aydin, 2012).

### **2.3 Overview of Social Media in Education**

Usage of social media in education has altered the manner in which learners acquire, share and build knowledge (Manca and Ranieri, 2016; Tess, 2013). The platforms have also allowed students to communicate and share ideas in real-time, cooperate on learning tasks one another as well as outside of the cause tensions with some faculty in the on- campus class (Junco, 2012) or may work against their being controlled in cyberlearning classroom (Kabilan et al.,2010). The use of Facebook, YouTube, Twitter, and LinkedIn as supplementary tools has been among the most popular to foster learning and enhance collaboration among and between learners and instructors (Chugh & Ruhi, 2018). Ainin et al. (2015) and Manca & Ranieri (2017) have underlined that social media will enable an increase in collaborative learning through group discussion, critical thinking, and active engagement. Learners can develop shared opinions and engage in reflective thinking of others' ideas by co-conceptualizing knowledge through the use of multimedia features, comment streams, and instant messaging (Shih, 2011; Wang, Woo, Quek, Yang, & Liu, 2012). Further, the use of social media enables learners to engage with learning beyond the confines of institutional boundaries and connects formal education with informal learning experiences (Madge et al., 2009; Greenhow & Robelia, 2009).

### **2.4 Facebook as a Collaborative Learning Tool**

Of all social media websites, Facebook is one that has interested many for possible learning purposes. Although designed primarily for social networking, it is also used by students to form study groups, share study material, and even engage in scholarly discussions (Madge, Meek, Wellens, & Hooley, 2009; Ainin, Naqshbandi, Moghavvemi, & Jaafar, 2015). The interactive features of this medium include group discussions, discussion-board postings, live video broadcasting, and file sharing, which are also greatly applicable to collaborative learning at university levels (Manca & Ranieri, 2016; Tess, 2013).

Facebook groups allow the learners to interact with their peers, ask questions, and get immediate responses. Constant interaction translates into a community where learners are participants rather than passive recipients of the learning process. In addition, many scholars comment that Facebook helps in forming mechanisms for peer support, student motivation, and collaborative learning processes among its groups. Such platforms compel students to share ideas and respond to issues as a group, but within a familiar and comfortable digital space.

However, for all its benefit, some challenges also emerge. Distractions, privacy, and unequal participation among members are usually enumerated as disadvantages (Kirschner & Karpinski, 2010; Ophus & Abbitt, 2009). Some teachers advise against obscuring the differentiation between social and academic usage, while others refer to the need for guided structured instruction in order to achieve Facebook's full learning benefits (Manca & Ranieri, 2017; Wang, Woo, Quek, Yang, & Liu, 2012).



Nevertheless, the findings indicate that Facebook, when intentionally integrated, can enable collaboration, reflection, and construction of knowledge among university students (Aydin, 2012)

## **2.5 Theoretical Framework an, Ahmad, & Abidin, 2010).**

The theoretical basis of why Facebook is enabling technology for collaborative learning falls under several interlinked perspectives: Social Constructivism, CoI Framework, and TAM. Social Constructivism (Vygotsky, 1978) assumes that learning is socially mediated and constructed through communication. The web-based nature of Facebook allows this communication; through Facebook, students are enabled to negotiate meaning and build understanding in cooperation.

The Community of Inquiry Model proposed by Garrison, Anderson, and Archer (2000) views the online learning space in terms of the interaction among social presence, cognitive presence, and teaching presence. Facebook provides a venue for all three: communication (social presence), reflective dialogue (cognitive presence), and facilitation by peers or instructors (teaching presence).

These are further supported by the Technology Acceptance Model, Davis (1989), where the ways in which users' perceptions of the relative ease of use and usefulness affect their willingness to adopt technology for learning are outlined. Combined, these frameworks offer a multifaceted guide to how Facebook can promote collaboration, interaction and community online in school communities.

## **2.6 Empirical research on collaborative learning**

Many empirical studies have focused on the relationship between social networks and collaboration. Training between university students. Biswas and Farhana (2015) conducted a qualitative study. A study that investigates how students and teachers perceive social media for collaboration.

We needed to create an environment that would optimize participation and group discussion. With Ukwai Shaka Agai 2020 also established that Facebook allows peer-to-peer interactions; Students exchange academic documents. Also, Iqbal, Rehman, and Khushi (2016) conducted research on the utilization of Facebook for educational purposes. Average for universities in Pakistan. Students find it effective in communicating; Support for scientists: Dutt (2023) conducted research on Bangladeshi students and found that: Share feedback, build relationships with your colleagues, and much more on Facebook. Improve learning outcomes. Ansari and Khan 2020 also highlight that though social media exists, The collaboration, time management, and online distractions remain a problem. Generally, these empirical findings have indicated that these social media, as well as many other media, play a supportive role. That is, playing Facebook, cooperative learning. However, most of these studies It may be quantitative or descriptive, and can also allow for qualitative research into the lives of students. Experiences and perceptions especially in the context of higher education in Pakistan.



## **2.7 Social Media in Higher Education in Pakistan**

Social media use in universities has been on the increase in Pakistan in the recent past year. Students coordinate homework, share information and discuss course material Facebook, WhatsApp, YouTube: How social media is Changing Higher Education It is also supported by the increasing demand for technology-supported, flexible learning environments. Facebook is considered to be an effective tool in informal learning among Pakistani researchers Students can communicate, share their ideas, and consult teachers. Friends: Pakistani university students consider Facebook a trusted place for interaction. The collaboration as defined by Iqbal et al. (2016). Abbas et al (2019) also define social media: Improve students' learning behavior through support and provision of learning process. Features of interactivity. Despite these advantages, there are also a number of challenges. Low digital literacy and unstable internet It includes connections and the attitude of society towards social networks, which usually stands in the way of their education. Use. Teachers may also not be willing to use social sites because of privacy concerns. Professionalism. Hence, the way students in Karachi use Facebook; However, this is an essential addition to national and international discussions: collaborative research. about technical training.

## **2.8 Research gap**

The literature reviewed has identified that social networks, even Facebook, tend to: Enhance collaborative learning through enabling communication, reflection, and community building. Research evidence from across the world; Biswas and Farhana (2015); Ansari and Khan (2020). It has evidence that, in this country, Facebook may allow sharing (Iqbal et al., 2016; Dutt, 2023). Increase knowledge and increase the engagement of students: perceptions of similar phenomena have been well-documented, The theoretical frameworks involved are social constructivism, community research, and technology acceptance model. In spite of that, the literature still has some gaps. earliest research. They value more quantitative approaches and simpler usages of social media than living a rich and vibrant life. Experiences between students. Very little quality data is available on Pakistan. This inequality, particularly among undergraduate students in Karachi, underlines the importance of. An intensive qualitative research study on how students use Facebook to create and create. Support learning communities to know their strengths and weaknesses, and how these occur. Interaction affects collaborative learning outcomes. The present study investigates this gap by exploring the use of Facebook as a shaping tool. We qualitatively explored learning communities amongst undergraduate students in Karachi.

## **3. Discussion**

This chapter discusses the qualitative analysis results in detail concerning the research issue you opted for. The Facebook helps in collaborative learning among undergraduate's students in Karachi. Pakistan. The findings uncovered are based on many factors which include the nature of the study. Frameworks and Previous Research Provided in Last Chapter. It identifies how. According to the study, Facebook is a



learning community where students interact. The environment and the wider implications of higher education in Pakistan. Studies show Facebook which I gaining lot popularity serves as an interactive.

Experience social interactions and learning that are rich. The respondents. They found the Facebook groups to be a fun but very powerful peer environment. assistance, quick feedback, and sharing of learning resources. These findings are supported by. Earlier studies by Ainin et. al. (2015) and Chugh & Ruhi (2018) are relevant for this. According to studies, Facebook is an effective collaborative learning tool that improves interaction. and communicating outside the classroom. Facebook brings in a factor of ease and familiarity among the universities in Karachi. Students already use social media, considering that most students are. The structure of the. The platform allows students to create knowledge following constructivism principles. by having discussions, asking questions and sharing experiences. This reflects the view of the Social. According to McLoughlin and Lee (2010), learning is a process of social mediation. (McLoughlin & Lee, 2010). Participants often reiterated how the academic Facebook groups made them feel like they were really among their lecturers and other students. A sense of community created a learning environment that was collaborative in nature, hence allowing cooperation and problem-solving. Students say that these online discussion boards help them in connecting the dots between in-class education and independent studying These results confirm Vygotsky's (1978) view that learning is achieved through social. relations and collaboration.

The asynchrony of Facebook allowed learning to occur at times suitable for the participants, thus allowing for the accommodation of students with a great deal of commitments. This supports the argument of Tess (2013) and Premadasa et al. (2019), who view social networking sites as potential facilitators of flexible learning communities beyond the boundaries of formal academic settings.

The learners found Facebook easy to use and it was an effective tool for learning. Outcomes indicated that perceived usefulness, or in other words, viewing course materials, managing group projects, and getting peer feedback, directly influenced continued participation in academic Facebook groups. Similarly, perceived ease of use enabled less computer literate students to participate with at least a minimized level of discomfort. These findings are consistent with the Technology Acceptance Model (Davis, 1989) where it has been established that perceived usefulness and perceived ease of use influence behavioral intention to use technology.

In the Pakistani context, where neither full learning management systems are adopted in all institutions nor their adoption can be regarded as full and effective, Facebook is an easy, low-cost, and well-known option. It also conforms to Elkaseh et al. (2016), who emphasized the potential of Facebook as an auxiliary educational tool, especially in developing countries. While it does have its advantages, participants also mentioned certain drawbacks. These included the possibility of distractions from materials unrelated to academics, privacy concerns, and hindrances to maintaining academic order in a casual social environment.

Similarly, Toker and Baturay (2021) and Sago (2013) were combinedly addresses. These issues as complaints, and they pointed out that even though it has made communication easy, social media lowers



focus and productivity. Students Also expressed concern over the validity of resources shared and equality of access to online services. forums. These findings revealed that although Facebook does provide space for collaborative learning, it is successful only with proper moderation and sharply defined academic goals. The Emerging theme from the data was how Facebook had the potential to complement learning in the classroom. Most of the participants believed that class performance and participation could be further improved with instructors participating in the Facebook Group themselves. This is in agreement with Ajjan and Hartshorne, 2008, agreed because it is faculty involvement that brings about academic value to online environments. Integrating Facebook into formal learning structures promotes blended learning environments. Characterized by interaction, reflection, and critical thinking. In the Pakistani higher education system, environment, where limited resources generally restrict student–faculty engagement, Facebook represents an inexpensive platform to bridge the gaps. The findings have a close association with the three theoretical positions informing this study:

- Technology Acceptance Model: Facilitative attitudes toward the use of Facebook ensure that perceived usefulness and perceived ease of use play a major role in influencing the behavioral intentions.
- TPB: Subjective norms — especially encouragement from peers and teachers — play an important role in shaping the intention of students to use Facebook for learning.
- Social Constructivism: The study establishes that learning through Facebook is socially is constructed since students make meaning through discussions, feedback, and shared experience.

These processes in combination explain how Facebook supports both the technological and social Dimensions of learning. The findings of this study have a number of implications for universities and teachers in Karachi. Facebook-based activities are capable of encouraging student-centered learning, developing digital literacy, and allowing interdisciplinary work. However, guidelines Social Media guidelines need to be designed that regulate its use in an ethical manner for learning. The large proportion of youth in Pakistan, combined with expanded access to mobile technology, This is an emerging opportunity. Social media sites like Facebook can drive innovative higher education, provided it is judiciously used. The central findings of the qualitative study were explained in this chapter and related to theoretical models and earlier literature. It emerged that that Facebook has been an important contributor to learning communities, fosters peer-to-peer interaction, and enhances collaborative learning among the Karachi undergraduates. Discussion also brought forth the way in which students' usage on Facebook aligns with the Technology Acceptance Model - TAM, the Theory of Planned Behavior, and Social Constructivism Confirming perceived usefulness, ease of use, and social interaction are powerful drivers in academic Facebook uptake. While Facebook has several learning points in its favor, the problems of distraction, privacy, and irregular participation are very real issues. These insights underline the potential of Facebook as a supplementary educational platform in the higher education context of Pakistan.



## **4. Conclusion and Recommendation.**

This chapter summarizes the general conclusions of the study and provides practical suggestions based on the findings of the earlier chapters. It explains how Facebook encourages group learning among Karachi's undergraduate students and how the results contribute to the literature about technology-based education. Implications for theory and practice recommendations for universities and possible directions of further research are further discussed. The present qualitative study explores how the use of Facebook helped the learning communities of Karachi and cooperative learning, undergraduate students attending one of Pakistan's many universities. Leveraging Technology Contemporary social constructivist theory, the acceptance model, and the theory of planned behavior. Research investigates how the use of Facebook improves academic performance.

Communication, information sharing, and collaboration between colleagues. Data was collected via extensive. Qualitative methods were used to establish students' opinions and experiences. The results revealed that Facebook creates a virtual environment and connects students beyond the classroom. Encouraging more interaction and learning motivation. The participants also describe Facebook as an approachable, accessible, and interactive environment that fosters academic collaboration and communication. However, the study also noted other issues, including distractions from non-academic privacy issues, institutional hesitancy, and content-all of which might potentially limit the potential of Facebook as a platform for education, and further, Facebook was reported as a very useful tool in academic cooperation. The students were exchanging course materials via Facebook groups asking questions and supporting each other while comprehending challenging concepts.

This is a confirmation of earlier studies by Ainin et al. (2015), Chugh & Ruhi (2018), and Premadasa et al. (2019) which had described Facebook as a tool employed in facilitating participation and engagement. The study established that Facebook enables social learning since students can build knowledge collaboratively. The results of the study support the Social Constructivist view that learning is created during interaction and collaboration among people (McLoughlin & Lee, 2010). The academic discussions and resource sharing among students in the groups on Facebook show the building of virtual learning communities. The students were thus found to show a positive attitude toward Facebook learning due to its perceived ease of use and usefulness, according to the Technology Acceptance Model postulated by Davis in 1989. The familiarity of the platform diminished the barriers to use, and accessibility via smartphones and internet connections further facilitated use. Social support and peer influence were important facilitators to motivate students to use Facebook for academic purposes, which again reinforces the Theory of Planned Behavior by Ajzen (1991). The interaction of staff was also significant in enhancing the learning benefits of the use of Facebook, as was institutional support.

### **4.1. Theoretical Implications**

Some of the limitations that were pointed out included, among others, lack of monitoring, distraction, and privacy concerns. Students were afraid to give up social and academic motivations. These findings hint at the need for systematic guidelines for using social networking sites for academic



purposes. This paper contributes to the growing literature on technology-enhanced learning by way of an investigation into the effectiveness of integrating three theoretical perspectives, namely, TAM, TPB, and Social Constructivism into an understanding of Facebook's use for collaborative learning. Integration of the three theories present an overall explanation of how individual attitude, social influences, and perceived control over behavior, which affects the adoption of learning technology. This study emphasizes that social media for Pakistani schools is an active and economical learning platform. Instructors may use Facebook groups for extending class engagement, encourages participation and feedback. It is recommended that university management develop appropriate-use policies on social media usage in the academic environment to ensure the following: Privacy and professional boundaries. Higher education institutions are able to implement a social media-enabled collaboration in e-learning strategies.

Workshops for students and teachers can be arranged to develop digital literacy and online behavior. Inclusion of these types of activities will further facilitate Pakistan's movement towards technology-based and blended learning. Indeed, universities have to integrate into the learning management systems formally Facebook and other social sites as adjunct collaboration and discussion tools. Instructors should be requested to participate as active members in online learning forums for thread moderation and academic guidance. Training sessions should be provided periodically to the faculties and students so that they can use these social sites effectively and ethically for educational purposes. The institutional policies have to include proper policies regarding privacy, and proper digital etiquette among the students. The long-term effectiveness of using social media for learning about academic performance and interactions for various academic disciplines and different universities in Pakistan is an area that can be further researched.

#### **4.2 Limitations of the Study**

Though interesting, the results of this study are limited to qualitative data-based research of undergraduate students in Karachi. The results cannot be generalized to another level or region. Future research can triangulate information by using a mix of methods to further the knowledge base regarding Facebook's educational impact.

#### **References**

- Ahern, L., Feller, J., & Nagle, T. (2016). Social media as a support for learning in universities: An empirical study of Facebook groups. *Journal of Decision Systems*, 25(1), 35–49. <https://doi.org/10.1080/12460125.2016.1187396>
- Ahmed, Y., Ahmad, M., Ahmad, N., & Zakaria, N. (2019). Social media for knowledge-sharing: A systematic literature review. *Telematics and Informatics*, 37(1), 72–112. <https://doi.org/10.1016/j.tele.2018.09.009>



- Ainin, S., Naqshbandi, M. M., Moghavvemi, S., & Jaafar, N. I. (2015). Facebook usage, socialization and academic performance. *Computers & Education*, 83, 64–73. <https://doi.org/10.1016/j.compedu.2014.12.018>
- Ajjan, H., & Hartshorne, R. (2008). Investigating faculty decisions to adopt Web 2.0 technologies: Theory and empirical tests. *The Internet and Higher Education*, 11(2), 71–80. <https://doi.org/10.1016/j.iheduc.2008.05.002>
- Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50(2), 179–211. [https://doi.org/10.1016/0749-5978\(91\)90020-T](https://doi.org/10.1016/0749-5978(91)90020-T)
- Ajzen, I. (1999). The theory of planned behaviour: Reactions and reflections. *Organizational Behavior and Human Decision Processes*, 26(9), 1113–1127.
- Al-Dheleai, Y. M., & Tasir, Z. (2017). Facebook for collaborative learning: A study of students' perceptions and experiences. *Education and Information Technologies*, 22(2), 243–264. <https://doi.org/10.1007/s10639-015-9438-8>
- Al-Qaysi, N., Mohamad-Nordin, N., & Al-Emran, M. (2020). A systematic review of social-media acceptance: The technology acceptance model perspective. *Education and Information Technologies*, 25(6), 4961–5002. <https://doi.org/10.1007/s10639-020-10197-1>
- Al-Rahmi, W., & Zeki, A. (2017). A model of using social media for collaborative learning to enhance learners' performance on learning. *Journal of King Saud University – Computer and Information Sciences*, 29(4), 526–535. <https://doi.org/10.1016/j.jksuci.2016.09.002>
- Al-Samarraie, H., & Saeed, N. (2018). A systematic review of cloud computing tools for collaborative learning: Opportunities and challenges to the blended-learning environment. *Computers & Education*, 124, 77–91. <https://doi.org/10.1016/j.compedu.2018.05.016>
- Ansari, J. A. N., & Khan, N. A. (2020). Exploring the role of social media in collaborative learning: The new domain of learning. *Smart Learning Environments*, 7(9). <https://doi.org/10.1186/s40561-020-00118-7>
- Arshad, M., & Akram, M. S. (2018). Facebook adoption and its impact on university students' learning: Evidence from Pakistan. *Pakistan Journal of Education*, 35(1), 45–60.
- Behringer, N., & Sassenberg, K. (2015). Improvement in group decision-making through social media: A social-identity-model perspective. *Computers in Human Behavior*, 52, 574–582. <https://doi.org/10.1016/j.chb.2015.06.010>
- Biswas, K., & Farhana, J. (2015). Social media in collaborative learning in higher education: A qualitative case study of teachers' and students' views. *University of Lapland*. <https://lauda.ulapland.fi>



- Bock, G.-W., Kankanhalli, A., & Sharma, S. (2006). Are norms enough? The role of collaborative norms in promoting organizational knowledge seeking. *European Journal of Information Systems*, 15(4), 357–367. <https://doi.org/10.1057/palgrave.ejis.3000632>
- Bozanta, A., & Mardikyan, S. (2017). The effects of social media use on collaborative learning: A case of Turkey. *Turkish Online Journal of Distance Education*, 18(1), 96–110. <https://doi.org/10.17718/tojde.285720>
- Chatterjee, S., Rana, N. P., & Dwivedi, Y. K. (2020). Social media as a learning tool: A conceptual framework. *International Journal of Information Management*, 52, 102–116. <https://doi.org/10.1016/j.ijinfomgt.2019.102116>
- Cheung, C. M. K., Chiu, P.-Y., & Lee, M. K. O. (2011). Online social networks: Why do students use Facebook? *Computers in Human Behavior*, 27(4), 1337–1343. <https://doi.org/10.1016/j.chb.2010.07.028>
- Chugh, R., & Ruhi, U. (2018). Social media in higher education: A literature review of Facebook use for academic purposes. *Journal of Educational Technology Systems*, 47(1), 101–115. <https://doi.org/10.1177/0047239518798099>
- Corrocher, N. (2011). The adoption of Web 2.0 services: An empirical investigation. *Technological Forecasting and Social Change*, 78(4), 547–558. <https://doi.org/10.1016/j.techfore.2010.06.015>
- Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, 13(3), 319–340. <https://doi.org/10.2307/249008>
- Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (1989). User acceptance of computer technology: A comparison of two theoretical models. *Management Science*, 35(8), 982–1003. <https://doi.org/10.1287/mnsc.35.8.982>
- Durak, H. Y. (2019). Examining the acceptance and use of online social networks by preservice teachers within the context of unified theory of acceptance and use of technology model. *Journal of Computing in Higher Education*, 31(1), 173–209. <https://doi.org/10.1007/s12528-018-9200-6>
- Elkaseh, A. M., Wong, K. W., & Fung, C. C. (2016). Perceived ease of use and perceived usefulness of social media for e-learning in Libyan higher education: A structural-equation-modeling analysis. *International Journal of Information and Education Technology*, 6(3), 192–199. <https://doi.org/10.7763/IJiet.2016.V6.683>
- Fishbein, M., & Ajzen, I. (1977). Belief, attitude, intention and behavior: An introduction to theory and research. *Philosophy and Rhetoric*, 10(2), 244–245.



- Gikas, J., & Grant, M. M. (2013). Mobile computing devices in higher education: Student perspectives on learning with cellphones, smartphones, and social media. *The Internet and Higher Education*, 19, 18–26. <https://doi.org/10.1016/j.iheduc.2013.06.002>
- Grover, P., Kar, A. K., Janssen, M., & Ilavarasan, P. V. (2019). Perceived usefulness, ease of use and user acceptance of blockchain technology for digital transactions – Insights from user-generated content on Twitter. *Enterprise Information Systems*, 22(5), 771–800. <https://doi.org/10.1080/17517575.2018.1549489>
- Habes, M., Salloum, S. A., Alghizzawi, M., & Alshibly, M. S. (2018). The role of modern media technology in improving collaborative learning of students in Jordanian universities. *International Journal of Information Technology and Language Studies*, 49(3), 71–82.
- Iqbal, M., Rehman, A., & Khushi, Q. (2016). A study to explore the views of students regarding Facebook as an instructional tool at university level. *Bulletin of Education and Research*, 38(2), 29–44.
- Mazman, S. G., & Usluel, Y. K. (2010). Modeling educational usage of Facebook. *Computers & Education*, 55(2), 444–453. <https://doi.org/10.1016/j.compedu.2010.02.008>
- McLoughlin, C., & Lee, M. J. W. (2010). Personalised and self-regulated learning in the Web 2.0 era: International exemplars of innovative pedagogy using social software. *Australasian Journal of Educational Technology*, 26(1), 29–43. <https://doi.org/10.14742/ajet.1100>
- Moghavvemi, S., & Janatabadi, H. S. (2018). Students’ e-learning through Facebook: An integrated model. *Computers & Education*, 125, 49–60. <https://doi.org/10.1016/j.compedu.2018.06.012>
- Premadasa, H., Meegama, R., & Jayawardana, H. (2019). Facebook as a virtual learning environment in higher education. *Asian Association of Open Universities Journal*, 14(1), 21–35. <https://doi.org/10.1108/AAOUJ-01-2019-0002>
- Sago, B. (2013). Factors influencing social-media adoption and frequency of use: An examination of Facebook, Twitter, Pinterest, and Google+. *International Journal of Business and Commerce*, 3(1), 1–14.
- Sánchez, R. A., Cortijo, V., & Javed, U. (2014). Students’ perceptions of Facebook for academic purposes. *Computers & Education*, 70, 138–149. <https://doi.org/10.1016/j.compedu.2013.08.012>
- Singh, J., Chandwani, R., & Kumar, M. (2018). Factors affecting Web 2.0 adoption: Exploring knowledge sharing and seeking in health care professionals. *Journal of Knowledge Management*, 6(3), 1–23.



- Tess, P. A. (2013). The role of social media in higher-education classes (real and virtual) – A literature review. *Computers in Human Behavior*, 29(5), A60–A68. <https://doi.org/10.1016/j.chb.2012.12.032>
- Toker, S., & Baturay, M. H. (2021). The effects of social media on students' academic performance: A case study. *Computers in Human Behavior*, 115, 106618. <https://doi.org/10.1016/j.chb.2020.106618>
- Ukwishaka, M. C., & Aghae, N. (2020). Using social media for peer interaction in higher education: Students' perception of using Facebook to support peer learning. *Education Resources Information Center (ERIC)*. <https://files.eric.ed.gov>
- Venkatesh, V., & Davis, F. D. (2000). A theoretical extension of the Technology Acceptance Model: Four longitudinal field studies. *Management Science*, 46(2), 186–204. <https://doi.org/10.1287/mnsc.46.2.186.11926>
- Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. *MIS Quarterly*, 27(3), 425–478. <https://doi.org/10.2307/30036540>
- Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Harvard University Press.
- Wong, K. T., Teo, T., & Russo, S. (2014). Influence of gender and computer-teaching efficacy on computer acceptance among Malaysian student teachers: An extended technology-acceptance model. *Australasian Journal of Educational Technology*, 30(3), 1–18. <https://doi.org/10.14742/ajet.261>