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A Model of Using Social Media for Collaborative Learning to Enhance Learner's Performance on Learning

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Abstract

Social media platforms can be valuable tools for collaborative learning by facilitating communication, knowledge sharing, and interaction among learners. They offer opportunities for students to engage in discussions, work on projects together, and access resources regardless of physical location. Social media has been always described as the channel through which knowledge is transmitted between communities and learners.

This social media has been utilized by B.Ed. colleges students in a way to encourage collaborative learning and social interaction. This study explores the use of social media in the process of collaborative learning through learning methods Science and Maths. Through this investigation, different factors enhancing collaborative learning in learning Science and Maths in the context of using social media are going to be examined. 40 respondents participated in this study. The structural equation modeling (SEM) was used to analyze the data obtained. Upon analysis and structural model validities, the study resulted in a model used for measuring the influences of the different variables. The study reported direct and indirect significant impacts of these variables on collaborative learning through the use of social media which might lead to a better performance by learners.

Keywords: Social media usage; Collaborative learning; Higher education and learners' performance

1. Introduction

Social media is surely an assistive tool in the area of education, more so for online learning. When COVID-19 began its spread, educational systems across the globe were forced to shift to online learning; hence, there arose an apparent need for advanced digital tools. Today, social media platforms such as Facebook and WhatsApp are viewed as strong tools to enhance online education and are no longer mere social networking sites. These provide channels through which students can communicate outside the conventional classroom, share resources, and participate in collaborative learning. Social media in the classrooms provides better means of interacting with peers,
increasing accessibility, and inclusivity of learning for students, especially those in underserved or rural areas. Collaborative learning is one of the most important teaching methods that social media supports; it thrives on communication and support from each other. In this way, students are able to engage in discussions, share knowledge, and work on projects with each other, hence effectively transforming

the old dynamics of education. For instance, social media platforms like closed groups on Facebook and learning channels in WhatsApp can be used to establish a private and regulated environment for academic discussion with minimal distractions. This is good in avoiding geographical boundaries. It can also ensure virtual engagement is achievable because students have many learning resources that are accessible, and immediate feedback is possible.

The current study is considered a distinguished effort since it explores TAM factors influencing collaborative learning to learn in the Science and Maths context of social media use. At the level of B.Ed. education.

2. Literature review

- What is the impact of social media-based collaborative
- How do students perceive the effectiveness of social media

Academic attention in social media integration into educational environments has grown steadily. The body of current research on social media-based collaborative learning, student participation, and learning outcomes in higher education is systematically reviewed in this part. Characterised by their interactive and user-generated content elements, social media platforms have changed the way people exchange knowledge and communicate. In learning environments, these tools present special chances for community building, knowledge exchange, and teamwork (Selwyn, 2012). Studies have indicated that social media can improve student-teacher contacts (Tess, 2013), encourage active learning, and help information flow (Greenhow, & Lewin, 2016). Social constructivist ideas of learning help one to understand the theoretical foundations of social media-based collaborative learning. Emphasising the need of social

interaction in cognitive development, Vygotsky's (1978) idea of the Zone of Proximal Development suggests that learners can accomplish more by means of peer and teacher cooperation than by means of solo effort. With their affordances for real-time communication and content sharing, social media channels offer a digital environment where such group learning might take place (Rambe & Chipunza, 2013). Many studies have looked at how particular social media sites might be used in the classroom. For example, Junco et al. (2011) observed that using Twitter in a classroom raised student involvement and raised grades. Their study showed that social media could be used deliberately to help to spread classroom discussions and support student-faculty interactions. Many studies have centred on the relationship between social media use and student involvement (Hamid et al., 2015). Based on time spent on educationally relevant activities, Junco (2012) noted a positive correlation between Facebook use and student engagement. Likewise, Dyson et al. (2015) noted higher student involvement and interaction in big lecture halls using Twitter. These results imply that social media can help to create an interesting classroom. Still up for argument, though, is how social media influences learning results. While some studies have reported positive effects on academic performance (Al-Rahmi et al., 2018), others have found mixed or negligible impacts (Lau, 2017). This inconsistency in findings underscores the need for further empirical research to better understand the conditions under which social media-based

collaborative learning can effectively enhance learning outcomes.

3. Objectives

1. To examine the impact collaborative learning has on the learners' performance through the use of Soci-

al media.

2. To study deals with the TAM model and verifies the different hypotheses.

4. Research hypotheses:

- **H1**: There is a significant relationship between perceived usefulness, enjoyment and students' satisfaction, use social media for collaborative learning
- **H2**: There is a significant relationship between enjoyment collaborative learning and learners' performance.
- **H3** : There is a significant relationship between social media use and students' satisfaction.
- **H4** : There is a significant relationship between collaborative learning and learners' performance.
- **H5** : There is a significant relationship between students' satisfaction and learners' performance.

5. Research methodology and data collection

5.1 Research Design

A mixed-methodologies strategy was used in this research to gather and analyse data, integrating quantitative and qualitative methods. To compare the outcomes of social media-based collaborative learning with conventional teaching techniques, a quasi experimental methodology was used. This approach was used in order to provide a thorough comprehension of the effects of social media-based collaborative learning, collecting both quantifiable results and profound insights into the experiences.

5.2 Research model

Constructivism Theory and Technology Acceptance Model (TAM) are the main grounds from which the research model is originated. The former theory highlights and proposes that interaction among learners and their instructors is an important stage in reaching engagement and active collaborative learning . The latter model mentioned above is also utilized in this research as it highlights the topic of new technology adoption being strongly influenced by perceived usefulness and ease of use. Much of the research in this field uses TAM, which was developed by Davis (1989), as a theoretical model. The reason why TAM is heavily used is because it determines the future of any computer technology in terms of acceptance or rejection. See Fig. 1.

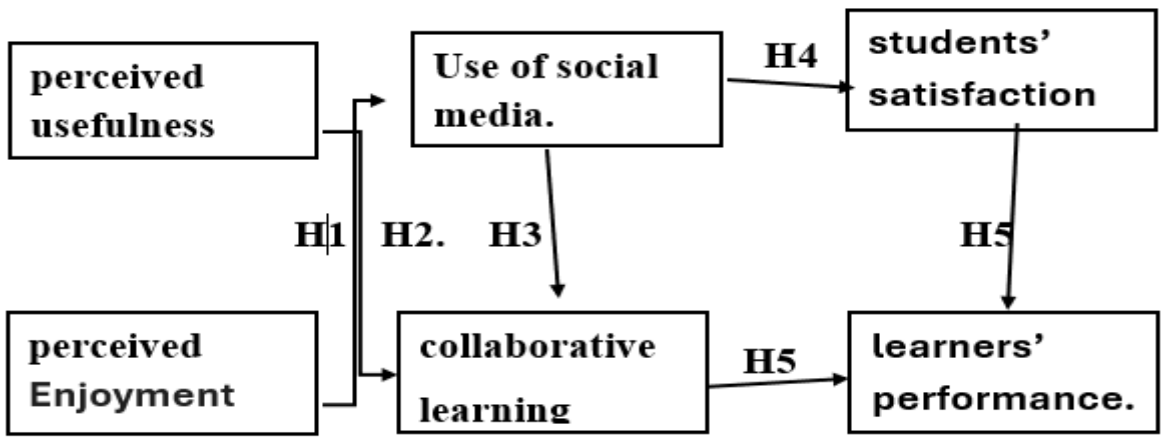

Figure 1. The research model with hypotheses.

5.3 Participants

The study included 40 randomly selected undergraduate students from one degree colleges of Pune, India. The institutions were chosen to reflect a wide variety of rural B.Ed. contexts found across the state. The sample consisted of 20 female students (50%) and 20 male students (50%), with an age range of 21 to 23 years old (M = 20.3, SD = 1.4). Announcements were made at each college to recruit participants, who had to fulfill certain requirements in order to be considered. These included being willing to participate in social media-based learning activities, having access to a computer or smartphone with internet connection, and being enrolled full-time as an undergraduate student. In order to guarantee that ethical standards were maintained, the study was authorised by the institutional review boards of the involved institutions and all participants gave informed permission. The 40 participants were randomly assigned, stratified by institution, to either the experimental group (n = 20) or the control group (n = 20) in order to guarantee equitable representation. While the experimental group engaged in social media-focused collaborative learning activities, the control group continued to received.

5.4 Data Collection Tool

The process of data collection took place in B.Ed. undergraduate students. Being the main tool of data collection, questionnaires were distributed to assess the influence of the factors under investigation and to verify the various research hypotheses. The questionnaire involved 41 items distributed over several factors namely perceived usefulness, perceived enjoyments , social media use, collaborative learning, students' satisfaction and learning performance. It also included demographic data like gender, education level, the level of social media use on daily and weekly basis to learn Science and Maths. 40 respondents agreed to participate and completed the questionnaire. This number is seen acceptable as it is reported that such study requires at 40 respondents to actively participate.

6: Data analysis and results

As the questionnaires were collected, respondents were classified according to many standards: gender, education level, the use of social media. Based on Table 1 gender classification, 20 male and 20 female respondents participated forming 50% and 50% respectively. 40 respondents confirmed that they use social media more than 6 times in a week for the purpose of learning science & maths.

6.1 Measurement model analysis

The major tool utilized by the current study for data analysis is called the structural equation model (SEM). This technique was used along with Confirmatory factor analysis (CFA). Upon analysis, the overall goodness-of-fit using fit Indices (χ^2, df, χ^2/df, RMR, IFI, TLI, CFI and RMSEA) were revealed. Overall model fit was accepted through the use of CFA. That was also shown through the initial confirmatory factor analysis. The goodness fit indices to measurement model all values were acceptable. Table1 below illustrates these results of the measurement model.

Table 1. Fitness of measurement model.

Model	χ^2	df	χ^2/df	CFI
Base	1124.43	753	1.493	0.915

5.2 Result of Hypothesis testing

The results of the current study support the framework as well as the hypotheses proposed in terms of the directional linkage between the framework variables. The 05 hypotheses proposed in the current study were accepted and verified. Table 5 illustrates the standard errors for the structural model.

Table 2 Hypotheses testing results.

H	Independent	Relationship	Dependent	Path	Estimate	SE	C.R	*P*	Result
H1	PU	→	SMU	.288	.178	.064	2.790	.005	Supported
H1	PU	→	CL	.303	.247	.080	3.447	.000	Supported
H2	PE	→	SMU	.266	.114	.036	3.155	.002	Supported
H2	PE	→	CL	.195	.122	.044	2.764	.006	Supported
H3	SMU	→	CL	.574	.841	.156	5.394	.000	Supported
H3	SMU	→	SS	.816	1.070	.126	8.464	.000	Supported
H4	CL	→	LP	.387	.319	.076	4.198	.000	Supported
H5	SS	→	LP	.555	.511	.097	5.293	.000	Supported

Note: PU: Perceived Usefulness; PE: Perceived Enjoyment;
SMU: Social Media Use; CL: Collaborative Learning; SS: Students' Satisfaction; LP: Learners' Performance.

The relation between perceived usefulness and social media use in the context of learning Quran and Hadith was found to be positive and significant with ($\beta = 0.178, p < 0.001$). This finding supports H1 proposing a significant relationship between the perceived usefulness and social media use for learning Quran and Hadith. The second hypothesis that suggests significant relationship between perceived usefulness and collaborative learning in the context of learning Quran and Hadith was also confirmed. With the result of $\beta = 0.114, p < 0.001$), H3 was also confirmed as the relation between perceived enjoyment and social media use for learning Quran and Hadith was found to be significant and positive. The positive relationship between perceived enjoyment and collaborative learning in the context of learning Quran and Hadith by social media use verified and proved H4 with ($\beta = 0.122, p < 0.001$).

As for the fifth hypothesis, the relationship between the perceived ease of use and social media use for learning Quran and Hadith appeared to be positive with ($\beta = 0.277, p < 0.001$). This result proves and accepts this hypothesis. Also, the sixth hypothesis was proved and accepted as the relation between perceived ease of use and collaborative learning to learn Quran and Hadith by social media use was reported to be positive and significant with ($\beta = 0.155, p < 0.001$).

As for the seventh hypothesis, a positive significant relationship was found between social media use for learning Quran and Hadith and collaborative learning. Therefore, the hypothesis is accepted and proved with ($\beta = 0.841, p < 0.001$). Hypothesis eight suggested a positive relation between social media use and student's satisfaction. As the results proved such relation, this hypothesis was accepted and proved with ($\beta = 1.070, p < 0.001$).

The ninth hypothesis that suggested a positive relation between active collaborative learning and learning performance of students was accepted and proved since the results supported such results with ($\beta = 0.319$, $p < 0.001$). The relation between students' satisfaction and learning performance was found to be positive and significant. This result provides support to the tenth hypothesis and therefore it was accepted with ($\beta = 0.511$, $p < 0.001$).

6.4. Conclusion and future work

It is vivid that social media is heavily used by students to learn Quran and Hadith. These platforms allow students to exchange and share information with their peers (Al-rahmi et al., 2015). The major aim of the study was to explore the impact of several factors on collaborative learning and students' satisfaction which lead to a better learners' performance. TAM was the ground of the proposed model used in the current study and that involved seven constructs: perceived usefulness, perceived enjoyment, and perceived ease of use, social media use, collaborative learning, students' satisfaction and learners' performance. An online questionnaire with 41 items was used to measure these constructs and was analysed using structural equation modelling (SEM) technique. The results highlighted that both collaborative learning and students' satisfaction have a positive influence on learners' performance in the context on learning Quran and Hadith. It is notable that the construct of students' satisfaction has the greatest influence. It also revealed the high satisfaction by students using social media enhances collaborative learning which leads to a better performance. The current study recommends that future studies include other and extra elements to assess the influence of the different factors on learners' performance through collaborative learning.

References

1. Al-Rahmi, W., Othman, M. S., & Yusuf, L. M. (2015). The role of social media for collaborative learning to improve academic performance of students and researchers in Malaysian higher education. The International Review of Research in Open Distributed Learning, 16(4).
2. Al-Rahmi, W. M., & Zeki, A. M. (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. doi:https://doi.org/10.1016/j.jksuci.2016.09.002
3. 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(1), 1-16.
4. Badri, M., Al Nuaimi, A., Guang, Y., & Al Rashedi, A. (2017). School performance, social networking effects, and learning of school children: Evidence of reciprocal relationships in Abu Dhabi. Telematics Informatics, 34(8), 14331444.
5. Bijttebier, P., Delva, D., Vanoost, S., Bobbaers, H., Lauwers, P., & Vertommen, H. (2000). Reliability and validity of the Critical Care Family Needs Inventory in a Dutch-speaking Belgian sample. Heart & Lung, 29(4), 278-286.
   [6] 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.
6. Cheung, C. M., Chiu, P.-Y., & Lee, M. K. (2011). Online social networks: Why do students use facebook? Computers in human behavior, 27(4), 1337-1343.
7. Farouk, S., Abu Elanain, H. M., Obeidat, S. M., & Al-Nahyan, M. (2016). HRM practices and organizational performance in the UAE banking sector: The mediating role of organizational innovation. International Journal of Productivity and Performance Management.

8. Fewkes, A. M., & McCabe, M. (2012). Facebook: Learning tool or distraction? Journal of Digital Learning in Teacher Education, 28(3), 92-98.
9. Fornell, C., & Larcker, D. F. (1981). Structural equation models with unobservable variables and measurement error: Algebra and statistics. In: SAGE Publications Sage CA: Los Angeles, CA.
10. Gbollie, C., & Keamu, H. P. (2017). Student academic performance: The role of motivation, strategies, and perceived factors hindering Liberian junior and senior high school students learning. 2017.