

Facebook Use as a Support for Academic Learning among College Students in Technological State Universities and Colleges

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Abstract: The main intent of this study was to explore how Facebook Groups impact the academic learning of undergraduate students. A mixed-method of research was applied in this study, in which the quantitative as a core component and the qualitative as supplemental. A sample of 590 college students of the selected State Universities and Colleges (SUCs) in Region VIII was the participants in this study. The researcher collected first the quantitative data and then the qualitative data were gathered second to elucidate, elaborate on, or explain the quantitative findings. The theory anchored on Cruz and Carvalho model for web 2.0 integrations that involves the constructivist, communication and collaboration tools that can be applied in the learning process and Technology Acceptance Model (TMA), to identify factors that may motivate these students to adopt Facebook for educational purposes. Results suggest that there is a significant relationship between the extent of students' use of Facebook Groups with ease of use, the usefulness of Facebook Groups and academic performance. Furthermore, qualitative results revealed that Facebook Groups facilitate academic learning because it increases their productivity, motivation, and dissemination of information through sharing in school-related information.

Keywords: Collaborative Learning, Academic Performance, Ease of Use, Usefulness

1. Introduction

Facebook is the largest social network in the world, and it is one of the most popular Internet applications in the past decade has over 2 billion users worldwide [1]. It has exceptional popularity among college students in their academic and social life. College students or college-age adults account for seventy to ninety percent of Facebook users [2]. Facebook provides a wide range of features for users such as updating wall, giving comments, reading news feed, giving likes, messaging, posting photos, forming groups, playing games, managing fan pages, creating events, taking notes, and chatting in groups [3]. Facebook Groups is one of the features of Facebook that facilitates the easy formation of groups of people.

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To date, schools and institutions are experiencing many technological advancements and changes in techniques in improving their teaching methods to meet the growing demands of their students. There are schools that take advantage of the use of social media as a teaching aid [4]. Consequently, academic activities in institutions and faculty are increasingly carried out through social networks, such as Facebook, Twitter, and LinkedIn. These are essentially used to connect with current and potential students and to deliver instructional content [5]. Additionally, another study was conducted to understand the social aspects of Facebook use among students and how they perceived using it for academic purposes. It was an exploratory survey distributed to 105 local and international students at a large public technology university in Malaysia. The results indicated that the students' perception of using Facebook for academic purposes was not significantly related to students' gender or students' background while it was significantly related to study level and students' experience [6].

It is claimed by Yang *et al.* after doing a comprehensive literature review that it is necessary to conduct more empirical research on the use of Facebook as an educational tool [7]. In addition, Nguyen *et al.* stressed that despite many studies about Facebook Groups there has been a lack of intensive research on this social platform as a learning tool among college students [8]. To shed light on this topic, we intend to highlight or explore the impact of using Facebook Groups on academic learning among college students of state universities and colleges.

Two research questions guide this study: 1) How do the college students perceive the use of Facebook Groups for academic learning? Does it facilitate or impede academic learning? 2) Does Facebook Groups' use for academic learning significantly impact students' academic performance?

The study anchored on the Cruz and Carvalho model for Web 2.0 integrations that involves the Constructivist, engagement, and motivation theory [9]. This theoretical framework explains how information, communication, and collaboration tools can be applied in the learning process. This framework indicates that students with web-based collaboration could achieve the learning goals of the constructivist theory. It is asserted that in a social constructivist environment, learners with collaboration can develop critical thinking, negotiation, interpersonal and cooperative skills by experiencing the perspective of other group members and constructing their knowledge [9]. A study conducted by Driscoll considered instruction based on constructivism theory in three parts: the condition of instruction, methods of instruction and learning goals [10]. Collaborative learning is one of these instructional methods. Similarly, Attention, Relevance, Confidence, and Satisfaction (ARCS) [11-13] model is a problem-solving approach to designing the motivational aspects of learning environments to stimulate and sustain students' motivation to learn. On the contrary, Engagement Theory is a framework for technology-based teaching and learning [14] idea is that students must be meaningfully engaged in learning activities through interaction with others and worthwhile tasks. The effective integration of technology and Information Communication Technology (ICT) tools into the learning process could enhance the learning and teaching process [15]. Facebook as a Web 2.0 and ICT tool has various characteristics that fit well with Social Constructivist learning [16].

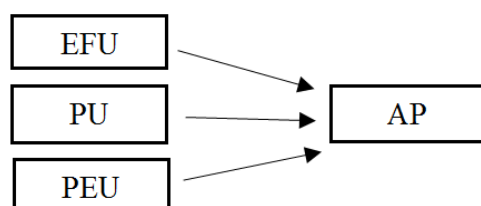


Figure 1. Theoretical Framework of the Factors of Facebook Use as Support for Academic Learning

The theoretical framework of this study is presented in Figure 1. Three variables including the extent of students' Facebook Groups Use (EFU), perceived ease of use (PEU), and perceived usefulness of Facebook Groups (PU) are the factors that influence students' academic performance (AP), we put forward the three hypotheses below:

- H1. There is a positive relationship between the extent of students' Facebook Groups Use with perceived usefulness of Facebook Groups, perceived ease of use, and academic performance.
- H2. There is a positive relationship between the perceived ease of use and perceived usefulness of Facebook Groups.
- H3. Students' use of Facebook Groups as a support for academic learning has a significant impact on student's academic performance.

2. Methods

2.1 Study Participants and Procedures

The participants of this study consisting of 1,056 undergraduates were randomly selected from technological SUCs in Region VIII, Philippines. Out of the 708 samples, there were only 590 responses received. All questionnaires were distributed in hard copies last March 2019. Two sets of instruments were used namely: the survey questionnaire for the quantitative analysis and the interview schedule intended for the qualitative part. Participants were voluntarily consented to provide answers to the questionnaires, thus, no financial compensation or incentives were given. The information provided by the respondents and the schools identified in the study were treated with the utmost confidentiality.

2.2 Measures

The measures were patterned from the questionnaires used by Nguyen *et al.* [8], Selpa [17], Liz *et al.* [18], and Kitchakarn [19]. The items of which were carefully revised to fit them to the study. The measure consists of four parts, as follows: (1) Measures of Extent of students' Facebook Groups Use. This aim at getting information about the participants' extent of students' Facebook Groups Use along with resources, projects/assignments, collaboration/group discussion, and the number of hours spent in a week by the participants in using Facebook Groups; (2) Measures of Perceived Usefulness of Facebook Groups for Academic Purposes. It uses a five-point scale which was coded as follows: 1-Strongly Disagree; 2-Disagree; 3-Neutral; 4-Agree; and 5-Strongly Disagree; (3) Measures of Students' level of Academic Performance of the subject use in Facebook Groups. The questions determine the level of students' academic performance of the subject use in Facebook Groups; (4) Measures of perceived ease of use. It uses a five-point scale which was coded as follows: 1-Excellent; 2-Very good; 3-Good; 4-Poor; 5-Very poor.

3. Results

3.1 Descriptive Analysis on Extent of Students' Facebook Groups Use for Resources, Projects or Assignments and Collaboration or Groups discussion and Academic Performance

In Table 1, results showed that of the three items (projects/assignments, collaboration, and e-learning resources), they had the same level of time spent in accessing Facebook Groups which were at [1 - 4.9] hours per week but they spent more hours doing their projects or assignment considering it had the highest mean in hours. It implies that the respondents spent more time asking questions regarding their projects and assignments with their classmates than collaborating or group chatting with their group members. On the other hand, the respondents got a low level mean in hours used in a week implying

that they would allot time also for their studies considering that they were still able to manage and perform their academic work as indicated by their satisfactory academic performance.

Table 1. The Extent on Students' Facebook Groups Use for Resources, Projects/Assignment and Collaboration/Group Discussion and Academic Performance

Average Time (per week)	Resources	Project/Assign.	Collaboration/Grp. Discussion	Qualitative Description
Less than 1 hour	.39	.40	.40	Very low
1.0 – 4.9	3.34	3.38	3.89	Low
5.0 – 8.9	6.4	6.59	7.33	Moderate
9.0 – 12.9	10.61	11.42	12.00	High
13 hrs above	14.20	14.73	15.02	Very High
Total	3.74	3.82	3.79	3.78 (Low)
Final Rating	F	%	Mean	Description
4.00 – 5.00	1	0.17%	5.0	Conditional/Failure
2.21 – 3.00	144	24.41%	2.57	Fairly Satisfactory
1.81 – 2.20	248	41.03%	2.01	Satisfactory
1.41 - 1.80	149	25.25%	1.65	Very Satisfactory
1.0 – 1.40	48	8.14%	1.22	Outstanding
Total	590	100.00%	1.99	Satisfactory

3.2 Descriptive Analysis of Perceived Usefulness of Facebook Groups for Academic Learning

Table 2. Perceived Usefulness of Facebook Groups for Academic Learning

Statement	Weighted mean	Qualitative Description
1. Facebook is an effective tool supporting communication and the exchange of school-related information.	4.09	Agree
2. Facebook enables and enhances collaboration beyond the school community for academic and professional development.	3.81	Agree
3. Facebook is highly useful in doing group work and promoting collaboration among group members.	3.95	Agree
4. Facebook assists users in accessing and sharing rich multimedia resources easily which helps improve the learning experience. (Multimedia: the use of text, graphics, animation, pictures, video, and sound to present information.)	3.78	Agree
5. Using Facebook is beneficial for my personal learning experience.	3.55	Agree
6. Facebook can be used as an effective means to assist informal learning (learning that is driven by personal interests/needs through daily experiences or interaction with other people/resources).	3.62	Agree
7. Facebook is a good place to keep in contact with other students in the class.	3.84	Agree
8. Facebook is a good place to ask for help with homework assignments.	3.81	Agree
9. Facebook is a good place to discuss different topics with classmates.	3.70	Agree
10. Facebook is a good place to access links to resources provided by the teacher.	3.82	Agree
Overall weighted mean	3.80	Agree (Useful)

In Table 2, it is found that the overall weighted mean of 3.80 denotes “useful”. It indicates a positive participant belief shown towards Facebook’s usability. These results were confirmed in the study of Shih [20] which supported the findings of Yunus and Salihi [21] by claiming that the use of Facebook for peer-to-peer assessment, a process where learners evaluate their peers’ work based on teacher-developed benchmarks, resulted in increased student interest and engagement during the study, especially about or concerning writing.

3.3 Descriptive Analysis of Perceived Ease of Use of Facebook Groups

Table 3. Perceived Ease of Use of Facebook Groups

Items	Weighted mean	Qualitative Description
1. Accessibility		
1.1 Internet Connection	3.50	Very Good
1.2 Device Used	3.46	
2. Managing Content	3.07	Good
3. Communication Mode	3.66	Very Good
Overall weighted mean	3.48	Very Good

The results in Table 3 showed the overall weighted mean of 3.48 denotes “Very Good” which implies that the respondents were not experiencing problems with regards to accessibility, managing content, and communication mode in using the Facebook Groups as a support for their academic-related tasks.

3.4 Correlation analysis

Table 4. Correlation Analysis of the Four Variables

Variables	1	2	3	4	Academic Performance
1. The Extent of Student’s Facebook Groups Use	-	.67**	.72**	.65**	.15**
2. Perceived Ease of Use of Facebook Groups		-	.89**	.89**	.05
3. Perceived Usefulness of Facebook Groups				-	.08

Note. * = p – value $\leq .05$, ** = p – value $\leq .01$

Table 4 reflects the correlation coefficients among respondents’ extent of students’ Facebook Groups use, perceived ease of use of Facebook Groups, perceived usefulness of Facebook Groups and academic performance, coefficients presented ranging from 0.05 to .89, that is, from negligible to little (weak) correlations. It can be observed that there is a positive correlation between respondents’ extent of students’ Facebook Groups use and perceived ease of use of Facebook Groups [$r(588) = .67, p < .05$], extent of students’ Facebook Groups use and perceived usefulness of Facebook Groups [$r(588) = .65, p < .05$], extent of Facebook Groups use and academic performance [$r(588) = .15, p < .05$].

3.5 Regression Analysis

The results in Table 5 found a significant relationship $\beta = .153$ at $p < 0.05$ (significant path) indicating the Extent of Students’ Facebook Groups Use significantly impacted the academic performance.

Table 5. Regression Analysis on Extent of Students' Facebook Groups Use and Academic Performance

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
1 (Constant)					
EFU	1.958	.022		89.186	.000
AP	.009	.002	.153	3.742	.000

a. Dependent Variable : AP

Note: * is significant at $p < 0.05$

4. Discussion, Conclusion and Recommendations

4.1 Discussion

There are three key findings of the study with regards to extent of students' Facebook Groups Use, perceived ease of use, perceived usefulness, and academic performance.

First, based on the results presented, it can be observed that the extent of students' Facebook Groups Use was positively correlated to the perceived ease of use, perceived usefulness, and academic performance. It confirms Hypothesis 1 and indicates that students felt comfortable when Facebook Groups was used as a learning tool especially in their collaboration or group discussion. Further, the students' overall academic performance mirrored their good study habits as presented in Table 1. The results suggest that using Facebook Groups as a support in their academic learning provides a motivating learning environment and increases their productivity though it can tempt them due to built-in games and application the respondents managed their academic-related tasks. According to Helou [22], in his study, the majority of the respondents agreed that social networking sites had a positive impact on their academic performance. Second, it was found that there was a positive relationship between the perceived ease of use and perceived usefulness of Facebook Groups. This result confirms Hypothesis 2 and we might conclude that the comfort with Facebook usage enabled the students to see the importance of it. The more they were comfortable with Facebook, the more they perceived its usefulness. The finding was consistent with previous studies that perceived ease of use had a significant influence on perceived usefulness [23]. Third, based on the results of regression analysis as presented in Table 5, it was found that there was a significant relationship between the extent of students' Facebook Groups Use and academic performance, therefore Hypothesis 3 was accepted students' use of Facebook as a support for academic learning have significant impact on student's academic performance. The finding was parallel with the findings of Moghavvemi *et al.* [24] that the relationship between the use of Facebook and academic performance is positive and significant.

On the other hand, we combined two research methods, quantitative and qualitative design, because we were confident that by using two methods, there was more validity in the research results. To answer the questions "How do the undergraduate students' perceive the use of Facebook Groups for academic learning? Does it facilitate or impede academic learning? We conducted interviews with randomly selected 24 respondents. The students' responses included in the interview schedule were summarized as follows: The majority of the interviewees answered that it facilitated learning. Among the reasons mentioned is it increases their (1) productivity, (2) motivation, and (3) dissemination of information through sharing in school-related information. Further, it is confirmed with another study conducted by Alhazami [6] to understand the social aspects of Facebook use among the students and how they perceived using it for academic purposes. An exploratory survey was distributed to 105 local and international students at a large public technology university in Malaysia. The results indicated that the

students' perception of using Facebook for academic purposes was significantly related to study level and student experience.

4.2 Conclusion and Recommendations

This study examined and explores the relations of the extent of students' Facebook Groups Use, perceived ease of use, perceived usefulness, and academic performance. According to the results, the opinions voiced and attitudes expressed by the respondents of this study regarding the use of Facebook Groups were generally positive overall, the findings showed that Facebook Groups use significantly impact respondent academic performance so therefore it is presumed that Facebook Groups is an effective tool that supports the academic learning of the students and it is consistent with the conclusion reached by Mazman and Usluel [25] and Sanchez *et al.* [26], that Facebook adoption has a significant positive effect on the purposes of Facebook usage and purposes of Facebook usage have a significant positive influence on the educational usage of Facebook. Although Facebook was not originally designed for educational purposes, it has great potential to enhance the learning experience. As several authors stated, Facebook can promote collaborative models of learning, connect students and instructors, increase learners' motivational levels, and create a more comfortable classroom climate [27]. The contribution of this study would be to provide empirical evidence that the extent of students' Use of Facebook Groups significantly impacts academic performance. But other factors do contribute to this positive attitude toward Facebook such as the perceived ease of use and perceived usefulness of this tool; students believe that using Facebook Groups facilitate academic learning because it increases their productivity, motivation, and dissemination of information through sharing in school-related information and will allow them to improve their communication, collaboration, and information exchange. Two directions of future studies are recommended. First, exploring other influential variables on Facebook usage could be significant, which could enrich the understanding of underlying factors as a support for academic learning. Second, it would also be interesting to conduct future studies with students from different countries to determine whether differences in socio-cultural contexts have an impact on Facebook use for academic learning.

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