

STUDENTS' FACEBOOK USAGE AND ACADEMIC ACHIEVEMENT: A CASE STUDY OF PRIVATE UNIVERSITY IN THAILAND

Wilailuk Sereetrakul

Faculty of Science and Technology, Bangkok University, Patumtani 12120, Thailand

ABSTRACT

The objective of this study was to determine if the time spent on Facebook and the purpose for which Facebook was used had any impact on the academic achievement of the students. This exploratory research used a questionnaire to collect data from 251 undergraduate students at a private university in Bangkok, Thailand. Data were analyzed using Multiple Regression Analysis to the conclusion that students used Facebook on an average of one hour and thirty minutes, for the purposes of communication and collaboration; that the number of hours spent on Facebook had no effect on their academic achievement; that using Facebook for communication impaired academic achievement; and, that using Facebook for collaboration did not impair academic achievement. The study has also found that time management is a key predictor in the determination of the students' academic achievement.

KEYWORDS

Facebook, academic achievement, time management

1. INTRODUCTION

Social networks are defined as a body of applications that augment group interaction and shared spaces for collaboration, social connections, and aggregates information exchanges in a web-based environment (Barlett-Brag, 2006). Facebook is one of the most commonly known social networks, particularly among the young individuals who are still studying. There have been reports that as many as 85 to 99 percent of all students are on Facebook (Hargittai, 2008; Jones & Fox, 2009; Matney & Borland, 2009). Thailand is reported to have as many as fourteen million Facebook users –the third largest country of Facebook users in Asia (Go-Gulf.com, 2012). Facebook provides an opportunity to users, to create personalized profiles that include general information like education background, work background, and favorite interests and also to add links and song clips of their favorite bands, post messages on friends' pages, and post and tag pictures and videos, among other things (Rosmarin, 2007; Zywica & Danowski, 2008).

As many students are using Facebook daily, Facebook seems to offer great potentials for teaching and learning. Students take advantage of Facebook as a tool in their studies as this platform makes it possible for them to exchange ideas and opinions or to interact with the other users at multiple levels. Several educational institutions have integrated Facebook into their management, for instance, to promote the institution, to communicate with their personnel, and to communicate with the students. Teachers have used Facebook as an instructional tool inside and outside of classrooms as well to bring an air of freshness to the learning environment. Facebook is consistent with the requirements of the learners and makes it possible for the teachers to connect with the learners more quickly. It allows for better participation in the learning activities as well.

Facebook is like a stage that gives learners more courage to voice their opinions than in classrooms (Cheung, Chiu & Lee, 2011; Pempek, Yermola & Calvert, 2009; Roblyer, McDaniel, Webb, Herman & Witty, 2010). However, with the widespread popularity of Facebook among the students, with more users online and with more hours spent on Facebook, a question arises about how Facebook affects the students' academic achievement. Facebook can help improve the performance of the students while at the same time it may hinder their learning process as well.

This is because the use of Facebook in classroom can distract students. With extended use in combination with poor time management, the students may have less time for their studies and assignments, resulting in procrastination and eventually poorer academic achievement. It is, therefore, interesting to study if Facebook affects the academic achievement of students.

1.1 Theoretical Background

Cognitive Load Theory (CLT) basically states that a learner's attention and working memory is limited. This limited amount of attention can be directed towards intrinsic, germane, or extraneous processing. Intrinsic processing describes a learner's focus on the learning content and its key features; it is determined by the intellectual demands of learning content (the complexity of the content). Germane processing describes a deeper processing of the content by its organization to cognitive representations and its integration into existing representations (integrating previous knowledge). Finally, extraneous processing describes cognitive demands during learning, which do not foster the actual objectives of the learning material, for example cross-references or navigation elements (Swello 1988).

1.2 Time Management and Academic Achievement

Outside of the classroom, if students cannot manage their time effectively since they spend too much time on Facebook for pleasure, they do not take the time to read the assigned material. As a result, they usually request for extensions or have late submissions. Moreover, they are not well-prepared for examination resulting in failing because they have very out-of-class study time. To conclude, students with good time management tend to have good academic achievement.

Trueman and Hartley (1996) studied the time management practices of American students and found female students to manage time more effectively than male students. Time management skills are crucial to academic performance. Good time management leads to better academic performance as well. Sansgiry, Kawatkar, Dutta and Bhosle (2004) discovered that time management skills, academic competence and learning strategies are the factors essential to effective learning. Griffin, MacKewn, Moser and VanVuren (2012) found that time management is positively related to the GPA of the students. Those with good time management achieve higher cumulative GPA.

1.3 Facebook and Academic Achievement

Several scholars have taken interest in the influence of Facebook on academic performance. The findings are not conclusive so far they are not in alignment: certain researches find Facebook to have caused poorer academic performance while other researches find Facebook to have no correlation with academic performance. The study of Kirschner and Karpinski (2010) surveyed the use of Facebook of undergraduate and graduate students to determine how it affected their academic performance. Taking into account the students' GPA, Kirschner and Karpinski (2010) found the GPA of students using Facebook to be lower than those who were not on Facebook. The use of Facebook has left the students with less time for their studies. On the contrary, O'Brien (2011) did a dissertation about the use of Internet and Facebook by the students. In this study, the Facebook usage behaviors and perception of the impact of Facebook on academic performance were examined. The study revealed that students spent an average of two hours on Facebook and 80% of that time was spent on socializing and entertainment. It revealed no significant relationship between Facebook usage patterns and academic performance. This is consistent with the findings of a study conducted by Pasek, More and Hargittai (2009) which did not find a relationship between the use of Facebook and the GPA of the students. The objective of this research was to study how the time spent on Facebook and the purposes for which Facebook was used affected the student's academic achievement, as determined from their cumulative GPA. The other factors of interest with influence on academic achievement were gender and time management skills.

2. METHOD

2.1 Respondents

The population in this study was undergraduate students at a private university in Bangkok, Thailand. A visit was made to the private university in July 2012 on a scheduled basis with prior permission from the instructors to enter their classes. The research tool used was an anonymous self-report questionnaire. Regarding ethical issues, the students were asked if they would be interested to volunteer by completing the survey. So, all respondents in this study were voluntary; they had been informed that they could stop responding to the items whenever they felt uncomfortable. Students spent approximately ten or fifteen minutes answering the questions. They were asked to sign a consent form that briefly described the study before taking part in the study. They were also told that the results from this study would not affect their course grades. There were 268 students completing the questionnaire. Of this number, 251 copies or 93.7% of the completed questionnaires were found to be usable. That was sufficient for further analysis.

2.2 Instrument

The instrument used to collect data was a questionnaire with three parts. The first part contained questions about their socio-demographic profile including gender, class year, cumulative grade point average, and time spent on Facebook in each day. The second part contained eleven questions about their usage of Facebook for academic purposes (e.g. “How significantly do you use Facebook to access course notes and other materials?”, “How extensively do you use Facebook to communicate with other students in your class?”). The third part contained five questions about the students’ time management practices (e.g. “I set a goal of what I must get done this week.”). The responses were based on the Likert scale from one to five.

The questionnaire was inspected for accuracy of content and for appropriateness of the questions by three qualified experts in the teaching field. Since the questionnaire was originally prepared in Thai, it was translated into English by a linguistic specialist from the Language Institute, Bangkok University. This questionnaire was piloted with fifty students and a reliability analysis was performed. The inter-item reliability (Cronbach’s alpha) of Facebook usage for academic purposes was 0.876, and 0.652 for time management.

2.3 Data Analysis

Descriptive statistics was used initially including frequency, mean, standard deviation for description of sample group demographics. The questions were grouped for Facebook usage for academic purposes using the Exploratory Factor Analysis. Subsequently, an analysis was conducted to determine the variables predicting the cumulative GPA of the students using the Multivariate Regression Analysis.

3. RESULTS

3.1 Socio-Demographic Profiles of the Respondents

The respondents in this study were 43.6% female and 56.4% male, aged between 18 and 21 years. The number of respondents from each class year was similar. The cumulative GPA of the sample students had a mean of 2.88 (SD = 1.07) with the lowest of 1.25 and the highest of 3.91. Students spent an average of 91 minutes on Facebook (SD = 74 minutes). The student who was on Facebook the longest spent three hours on it each day while the student who spent the shortest time on Facebook was on it for ten minutes. The details can be seen in Table 1.

Table 1. Demographic Information of the Respondents

	Frequency	%
Gender		
male	144	57.4
female	107	42.6
Class year		
freshman	51	20.3
sophomore	72	28.7
junior	68	27.1
senior	60	23.9
Cum. GPA		
0.00 – 2.00	29	11.6
2.01 – 2.50	83	33.1
2.51 – 3.00	81	32.3
3.01 – 4.00	58	23.1
Facebook time		
Less than 30 min.	80	31.9
31 – 60 min.	43	17.1
61 – 120 min.	55	21.9
more than 120 min.	73	29.1

3.2 Factors Analysis Results

The eleven statements concerning the use of Facebook for academic purposes by the students were analyzed using principle components analysis with varimax rotation method to determine the underlying dimensions. In this process, the minimum Eigen value of 1.0 was used as cut-off. Only the constituent statements with factor loadings of more than .5 were retained. The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy and the Bartlett's test of sphericity were used to test the fitness of the data. The result of KMO was 0.852 and the Bartlett's test of sphericity was found at the significance level of 0.000. These figures suggested that the use of factor analysis was appropriate (Hair, Anderson, tatham, & Black, 1998). Two dimensions were extracted from the eleven statements. The factors derived were communication and collaboration. Communication means using Facebook to contact or communicate with classmates or instructors while collaboration refers to using Facebook to do assignments together in groups or to raise any academic issues to be discussed among friends. The cumulative percentage of explained variance was 61.23 % which meant that the two factors could explain 61.23 % of variation of students' usage of Facebook for academic purposes. The details can be seen in Table 2. The factor score of the two factors were used as predictors of students' academic achievement in the next step.

Table 2. Result From Factor Analysis of Using Facebook for Academic Purposes

Factors	Factor loading	Eigen-Value	% of variance
<i>Communication</i>		4.958	45.08
Communicate with other students in my course	.827		
Participate in activities prepared by the instructors	.812		
Participate in activities or games which are a part of the coursework	.781		
Communicate with university staffs	.746		
Communicate with the instructors	.743		
Keep track of university announcements	.603		
Access to course notes and other materials	.509		
<i>Collaboration</i>		1.777	16.15
Exchange information with classmates	.845		
Send and receive information among friends with the aim to complete group reports	.822		
Exchange views with friends on class subject matters	.803		
Complete quizzes provided by the teachers.	.598		
Total % of variance			61.23

3.3 Predictors of Students' Academic Achievement

For the analysis of variables predicting the students' academic achievement, the Multivariate Regression Analysis was used. Academic achievement was determined by the cumulative GPA of the students. The five predictors were gender, time spent on Facebook, time management skills and the two variables identified by the Factors Analysis which were communication factor score and collaboration factor score.

Gender values of "0" and "1" were assigned for female and male respectively. The variable of time spent on Facebook was converted to standard score in order to present it as normal distribution. The results of this analysis are presented in Table 3.

Table 3. Regression with Cumulative GPA and the Five Predictors

Predictors	B	SE B	β	t
Constant	-1.074	0.426		-2.521
Gender	-0.342	0.127	-0.169	-2.690**
Time management	0.385	0.122	0.196	3.145**
Time spent on Facebook	-0.045	0.062	-0.045	0.469
Facebook for communication	-0.190	0.061	-0.190	-3.088**
Facebook for collaboration	0.023	0.062	0.023	0.362
F = 6.138**, R ² = 0.113				

Remarks 1) ** p -value < 0.01

2) Time spent on FB was converted to standard score

A test at the significance level of 0.01 has found three predictors to be capable of predicting the cumulative GPA of the students: (1) gender ($\beta = -0.169$; Male students had lower cumulative GPA than female students.); (2) time management ($\beta = 0.196$; Time management had a positive influence on GPA. With good management skills, the students would have good academic performance as well, and (3) use of Facebook for communication ($\beta = -0.190$; The use of Facebook for communication had a negative impact on GPA. Their academic performance was impaired if students used Facebook to communicate with their classmates too extensively).

Upon the review of the magnitude of standardized regression coefficients (β), it is noticed that the β of time management is highest ($\beta = 0.196$), suggesting that time management is the best predictor of academic achievement. The factors of time spent on Facebook and the use of Facebook for collaboration did not predict students' academic achievement.

4. DISCUSSION AND CONCLUSION

Thai students use Facebook on an average of one hour and thirty minutes per day. This is similar to the survey findings involving a sample of American students who use Facebook on an average of one hour and forty minutes per day (Junco, 2012). However, the average time of spending Facebook was found to be a bit different from the finding in a study revealing that students spent an average of two hours on Facebook and 80% of that time was spent on socializing and entertainment (O'Brien, 2011).

Gender is one of the factors that should be brought to discuss. Female students have higher cumulative GPA than male students. The finding of this study is consistent with that of the studies by other scholars where it is found that females often outperform males in collegiate (i.e. Sheard, 2009; Barrow, et al., 2009; Farsides & Woodfield, 2007).

The next discussion on factor is time management skills. It is worth noting that students with good time management achieve higher cumulative GPA. Since time management is found to be the best predictor of academic achievement in this study, it is necessary to warn students to be aware of time management. This result is consistent to previous studies (Sansgiry, Kawatkar, Dutta & Bhosle, 2004; MacKewn, Moser & VanVuren, 2012) in that time management skills are the factors essential to effective learning. Although time spent on Facebook is not a predictor of academic achievement in the present study, students should realize that spending too much time on Facebook has left the students with less time for their studies.

Generally, the use of Facebook for academic purposes is for communication and collaboration. This study found that the use of Facebook for communication has a negative effect on academic achievement as students tend to discuss matters not related to their studies, resulting in a waste of time. On the other hand, this study indicates that the use of Facebook for collaboration does not have an influence on academic achievement. A reason for this finding is that Thai students are not accustomed to using Facebook for collaboration in doing assignments; academic contents do not much attract their attention and interest. This can be explained on the basis of Cognitive Load Theory stating that a person's attention is limited. This limited amount of attention can be due to the complexity or difficulty of the content. Therefore, a focus on the content is not long if Facebook is used for academic purposes. Therefore, the effect on their academic achievement is not very evident.

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