USING SOCIAL MEDIA FOR PEER INTERACTION IN HIGHER EDUCATION: STUDENTS' PERCEPTION OF USING FACEBOOK TO SUPPORT PEER LEARNING

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ABSTRACT

Facebook is growing fast in various fields including education field. Most studies showed that today students in higher education use Facebook to communicate, cooperating and finding solutions. The main purpose of this study is to investigate and reflect on students' perspectives regarding the use of Facebook and its influence on students' collaborative learning, motivation of communication, and peer connection, in higher education. Concerning to the purpose of the study, how students perceive using Facebook to support peer interaction and educational learning. In addition, students' perspective on the benefits and limitations of using Facebook in educational learning were investigated. A qualitative interpretative research study was conducted and data was collected through interviews. The main results showed both benefits and limitations of using Facebook followed by a set of strategic suggestions that would be beneficial for students, universities, and this research area to associate with a set of standards for Facebook usage in higher education.

KEYWORDS

Facebook, Higher Education, Social Media, Peer Interaction, Educational Technology, Collaborative Learning

1. INTRODUCTION

Popularity and growth of the online social networks has created a new way of interaction, communication and collaboration in the field of education (Cheung, 2011). Social media platforms such as Facebook provide unlimited means for the Internet users to update themselves, interact, express, share, and create content (Muntinga, Moorman & Smith, 2011; Lin, Huarui & Tang, 2012). Social networks such as Facebook have the capability to connect learners for collaborative learning that are both social and academic (Selwyn, 2007). Social media, as a collection of applications, are based on internet and web 2.0 technologies, which facilitate access to the contents and information exchange alongside face-to-face communications and using the formal learning management systems (Kaplan & Haenlein, 2010; Hrastinski & Aghaee, 2010). Using social media such as Facebook for retrieving content or initiating contacts makes students seeing social media as one of key means of the educational experience and coordinate group work and collaborative learning (Hrastinski & Aghaee, 2010; Keles, 2018).

Social media spread information fast, which could be very useful in education (Dogruer, Eyyamb & Menevisab, 2011). Studies (such as Selwyn, 2007; Muntinga, Moorman & Smith, 2011; O'Keeffe & Clarke-Pearson, 2011; Boulos, Maramba, & Wheeler, 2006) reflect on the use of social media for collaborative learning with general purposes or as a part of informal learning. Other studies (such as Arnold & Paulus, 2010; Hrastinski & Aghaee, 2010; Dogruer, Eyyamb & Menevisab, 2011; Esteves, 2012; Mourad et al., 2015) demonstrate that social media, such as Facebook, are becoming more of a communication and collaboration medium for educational learning; or as a part of the teaching/learning strategy in supporting students in coordination of sharing information and group work organization and collaboration. The integration of technology and social media in the cognitive process of acquiring knowledge has made teaching and learning activities more efficient and effective (Woo & Reeves, 2008). Social media offers

social interaction and provides opportunities for students to reconnect with peers for learning purposes in formal educational settings (Mourad et al., 2015, pp.35).

Studies show how social media and Facebook increase students' performance, advantages and disadvantages, or teachers and/or students' experiences, by using social media or specifically Facebook for educational purposes (Cain & Katherine, 2013; Pardo, 2013; O'Keeffe & Clarke-Pearson, 2011; Subrahmanyam & Greenfield, 2008; Arnold & Paulus, 2010; Kirschner & Karpinski, 2010; Kuppuswamy & Shankar, 2010; Lin, Huarui & Tang, 2012; Lin, 2018). However, research on how student-student (peer-to-peer) interaction can be improved or facilitated by social media as a standard, is still needed in the educational technology research area. Investigating students' perceptions of using Facebook to support peer interaction and collaborative learning is important for the academic society, as this social media based communication method shows significant positive influence on students' motivation, classroom environment, and affective learning (Mazer, Murphy & Simonds, 2007).

Additionally, providing suggestions on using Facebook for educational learning purposes that students can follow may enhance peer's interactions and collaborative learning. This study hence addresses this gap in the literature about using Facebook to facilitate collaborative learning activities among peers. The aim was to investigate and reflect on students' perspectives regarding the use of Facebook and its influence on students' collaborative learning, motivation of communication, and peer connection, in higher education. The guiding research question is: how social media such as Facebook can facilitate peer interaction and support formal learning in higher education. The study was based on the perceptions and practices of students enrolled at Linnaeus University in Sweden.

In order to establish a basis for this study, it was necessary to study the current usage of social media (Facebook) in higher education. This was done as part of the study, primarily by defining the concept of social media and reviewing how Facebook supports peer interaction in educational learning. In the second phase, the study focuses on investigation of students' perceptions of using Facebook to support peer interaction and educational learning. The result shows both benefits and limitations of using Facebook. Based on the first two phases, the contribution of study followed by a set of strategic suggestions, for students to benefit using social media, specifically Facebook, in higher education. The suggestions are based on the current stage of using social media in education and students' reflections, which would be beneficial for other students, other universities, and this research area to associate with structured use of Facebook in higher education. Since technology use and social media is increasingly being deployed within educational settings, specially with the current situation of COVID-19 pandemic, structured use of Facebook would facilitate collaboration and learning and add educational values to the digital age of the 21st century.

2. METHODOLOGY

The data for this research was collected through literature review and individual interviews in order to investigate students' perceptions and opinions in their own words (Creswell, 2009). The purpose of this study was intentionally to choose students from different discipline, educational level, gender and age, to fulfill the criteria of diversity (Creswell, 2009). The target group of the study was students at Linnaeus University, and sampling selection was random voluntary selection to cover a broad range of students with no specific direction of study or discipline, or any educational level.

2.1 Interview

The main empirical data collection method in this study was interview. The interviews were conducted in a semi-structured way, face-to-face, audio recorded in the university library, at Linnaeus University, in Växjö, Sweden. The interview sample was purposely selected broadly, in order to get a broad perspective, but sufficient amount of data, which got to the saturation level, very early in the data collection process after the fifth interview. Fusch and Ness (2015: p 1408) note "failure to reach saturation has an impact on the quality of the research conducted". According to Morse (2015: p 587), the saturation aspect is "present in all qualitative research" and it is generally considered as the gold standard in qualitative research for identifying sample size.

The interviews were contacted and new respondents were requested in person to be involved in this research after analyzing the collected data and hence the number of respondents were gradually increased until no new information came up any longer. The interviews were continued until saturation was met, in order to make meaningful and valid conclusion and develop the strategic suggestions (presented at the end of the paper), which were based on the literature review in connections to the theoretical and empirical aspects, collected specifically for this study.

The participants were represented by codes as SP (Student Participant), as shown in table 1. The interviewees in this study were seven students, including three male and four female, two studying in bachelor level and five in master level. All interviewees were voluntarily participated, with no given bonus or present. The demographical factors such as interviewees' codes, study discipline (department), level of study, and interview dates, were shown in the table 1.Figures should de numbered consecutively as they appear in the text.

Table 1. Demographic factors of interview participants (interviewees)

Student	Department	Level of study	Date	Duration
SPI	Informatics	Masters	12/04/19	35min
SP2	Design	Bachelors	12/04/19	40min
SP3	Organization and Entrepreneurship	Bachelors	13/04/19	38min
SP4	Informatics	Masters	13/04/19	41min
SP5	Social studies	Masters	15/04/19	35min
SP6	Building Technology	Masters	15/04/19	37min
SP7	Informatics	Masters	17/04/19	40min

The interview begun with a presentation about the research topic, purpose and methodology used, and then the consent form was given to participants to aid them to carefully view all the terms of this research study to sign it. Participants were informed about their rights, to get ensured that their privacy and personal information were confidential in order to provide trust and openness. During the interviews, it was discussed about the benefits and limitations of using Facebook to support peer interaction, collaborative and educational learning in higher education settings. At the end of the interviews, the interviewees were also asked for further suggestions and how using Facebook or in general social media could be part of the formal educational settings in higher education.

2.2 Data Analysis

The data gathered from interviews were audio-recorded, transcribed verbatim, and analyzed thematically, then categorized into themes and sub-themes, in which, each theme and sub-theme were part of the strategic suggestions, developed and presented as the contribution of this study, at the end of the paper. Concerning validity, multiple techniques have been tried in this research in order to assure the internal validity of research findings and to generate a specific and acceptable result. The two researchers checked the accuracy of the data collection, data analysis, and the developed reflections, in order to enhance the trustworthiness of the data presented in this paper. The following tactics elaborated by Creswell (2009) have been applied:

• Using various data sources like interviews with participants and other sources like the electronic database provided the feasibility of research study; it also enabled the evaluation and comparison of the results which are essential for validity.

• After conducting interview, data collected was transcribed verbatim and some re- examination were done to ensure that whether the written form is similar with what the participants have expressed with no bias or modifications in context.

This research study followed these six phases during the analysis of data collected through interview as follows (Braun & Clarke, 2006: p. 87-93): "1. Becoming familiar with the data; 2.Generation of the initial codes; 3.Evolvement of themes; 4.Review of potential themes; 5.Establishment of themes; 6.Write-up of report". The data collected from interviews were hence examined and re-examined to discover reappearing patterns of meaning as recommended by Braun and Clarke (2006). This procedure allowed the derivation of themes that were used in data analysis.

3. RESULT AND DISCUSSION

In regards to the derivation of themes from the existing literatures, four main theoretical aspects were used as the fundamental parts of developing the six following themes in this study. The four aspects were Facebook as a social media, peer interaction and collaborative learning, connectivism as a learning theory (for the digital age), synchronous versus asynchronous communication in edication. Data collected from interviews were analyzed using thematic analysis based on these main aspects, which let to identifying the six main themes, based on the findings of this study. The developed themes were presented in table 2, as the main result of the empirical data based on the theoretical aspects. Each theme is presented in detail (in table 2), with the description of the theme, and contains some reflections on the students' perceptions on each aspect.

Table 2. Summary of interview findings per theme

Themes	Description	Findings
Theme 1: Facebook platform as a means for learning	Facebook social networking site as platform for both formal and informal learning.	■ All student participants have been on Facebook for at least 5 years and they believed that Facebook usage support them for formal learning, students participants explained Facebook as helpful platform which support their formal learning however on the other hand student stated that Facebook homepage distracts students' attention to other things. ■ Facebook also enables students to learn other things that are not related to their courses (Informal Learning). like cooking. ■ Facebook provides additional tools for learning that support students. ■ Most of students use groups, likes, post, chat, messenger in general. Both posts and chat through messenger are the most ones used for formal learning. ■ Students share different kind of learning materials like videos, documents and books with other peers and as a result students are able to perform well.
Theme 2: Facebook platform as a means of interaction and collaboration	Facebook as a facilitator of peers 'interaction and connections establishment.	■ Facebook platform offers useful functionalities that allow users to organize meeting, event, party, and group discussions. ■ The internet accessibility and bandwidth speed of all participants is either average or excellent; all student participants check their Facebook accounts at least 3 times per day and these enhance student peers' interactions. ■ Facebook creates good relations among peers. ■ Students on Facebook help each other towards good performance ■ Facebook functionalities enable collaboration among peers. ■ Collaboration on Facebook are helpful If peers are active and collaborate with each other.
Theme 3: Facebook platform as a means for information and knowledge exchange	Facebook as a communication (both synchronous and asynchronous) medium for sharing information, ideas and knowledge	■ Sharing picture/video which is not related to courses does not affect some students. In contrast, there students who become angry or loose motivation when such picture or video is shared on student peers' group. ■ Student peers use Facebook functionalities such as: messenger, posts, groups, pages to share ideas, information and experience easier.

Themes	Description	Findings
Theme 4: Benefits of Facebook platform usage	Advantages of Facebook for supporting peers' interaction and educational learning.	■ Sharing useful information and making more friends. ■ Communication with peer students is easier, not only with peers but also with teachers. ■ Facebook is a friendly environment where peers help each other. ■ Facebook enables group discussions and performing task together like assignment. ■ It enables student peers to conduct their research studies (e.g. conducting survey).
Theme 5: Difficulties of Facebook platform usage	Limitations associated to Facebook usage for supporting peers' interaction and educational learning.	■ Peers who are not active/responsible. ■ Inaccessibility of Facebook in some countries. ■ Peers who like to post useless picture, video and chats. ■ Lack of facial expression. ■ Misunderstanding during discussions since peers can send messages at the same time and this may create confusions among student peers. ■ Technical issues that occur while she is interacting with peers. For instance connection issue during video/audio call. ■ Privacy and security on Facebook are limited. ■ Limited knowledge, consequently, all questions posted on the group are not well answered by peers.
Theme 6: Ideas for improvement	Suggestions for enhancing peers' interaction and educational learning on Facebook platform	■ Respecting group peers and the purpose of group may improve educational learning through Facebook platform. ■ Collaboration on Facebook is needed in order to improve educational learning ■ Students who use Facebook have to be more active, disciplined and responsible. ■ Students also expressed that it may be better if there are some groups on Facebook that both peers and lectures can join. ■ Limitation of connection during audio/video call, privacy and security, accessibility issue should be eliminated.

Technology and social media are increasingly being deployed within educational settings (Cain & Katherine, 2013; Pardo, 2013; O'Keeffe & Clarke-Pearson, 2011; Subrahmanyam & Greenfield, 2008; Arnold & Paulus, 2010; Kirschner & Karpinski, 2010; Kuppuswamy & Shankar, 2010). The empirical results of this study were truly in line with the previous studies (such as Selwyn, 2007; Muntinga, Moorman & Smith, 2011; O'Keeffe & Clarke-Pearson, 2011) regarding the social media for general learning purposes, and in line with some other studies (such as Keles, 2018; Arnold & Paulus, 2010; Dogruer, Eyyamb & Menevisab, 2011; Esteves, 2012; Mourad et al., 2015) regarding the usefulness of social media to facilitate collaborative learning.

3.1 Reflections and Strategic Suggestions

Based on the findings above, following are the four developed categories of the strategic suggestions, which Facebook can be part of the learning process in higher education. The following strategic suggestions presented below were developed based on the themes (showed in table 2), as the current stage of using social media in education and students' reflections and perceptions about the use of Facebook as a useful standard to facilitate peer interaction and learning in higher education. The categories of strategic suggestions below clarify the benefits and challenges associated with Facebook usage for collaborative learning.

3.1.1 Facebook Platform as a Means for Educational Learning

The functionalities of Facebook as a platform for learning were appreciated by all participants. All respondents in this study reflected that they have been on Facebook for at least five years. Students pointed out that Facebook is a helpful platform that has supported their formal and informal learning in different study levels. Facebook platform supports students' formal learning (Selwyn, 2007; Muntinga, Moorman & Smith, 2011; O'Keeffe & Clarke-Pearson, 2011; Arnold & Paulus, 2010; Hrastinski & Aghaee, 2010; Lin, Huarui & Tang, 2012). In line with this, students praised the fact that Facebook is an easy and fast way to share ideas and learn from each other. At this point, students explain Facebook functionalities as a helpful platform that facilitate the learning process. In general, all participants in this study used Facebook groups, likes, post, chat, and messenger for learning purposes.

This is while, on the other hand, one respondent claimed that Facebook platform might distract students and draw attention to other things, if not structured teacher/learner guided with specific purposes, as also mentioned by earlier studies such as Hrastinski and Aghaee (2010). However, the other respondents did not mentioned and saw Facebook more toward a help both generally and specifically for their studies. Hence, as the result, the study reflects that posts and chat through messenger and the Facebook platform are the most used functions for sharing information and supporting the formal learning.

3.1.2 Facebook Platform as a Means of Interaction and Collaboration

Interaction and collaboration through Facebook platform can be done through pages, groups and messenger. During the interviews, it was noted that the internet accessibility and bandwidth speed of all participants is either average or excellent. The students (interviewees) check their Facebook accounts often, at least three times per day. Therefore, peers are able to stay in touch and make group discussions very constantly. Peers can get the latest updates about their meetings, group works organizing, planning and any other updates faster than through other learning platforms, as also discussed by previous studies such as Dogruer, Eyyamb and Menevisab (2011).

Most of the participants agreed that Facebook platform helps peer interaction in educational learning process, for instance student peers could organize group meetings and events through Facebook, as also discussed by earlier studies (Hrastinski & Aghaee, 2010; Esteves, 2012; Mourad et al., 2015). Although, students believed that collaboration on online platforms such as Facebook would facilitate their formal learning, still among students, some peers are not always taking responsibilities as they should and do not do their task and take it more informal. However, Facebook functionalities such as pages, groups and messenger facilitate interaction and collaboration among peers, group connections and sharing file, drafts, and information, which support collaborative learning in the formal educational settings.

3.1.3 Facebook Platform as a Means for Gaining Information and Knowledge Exchange

Facebook platform offers several functionalities that facilitate communication from students to students (peer-to-peer) and supports both formal and informal learning (Selwyn, 2007; Muntinga, Moorman & Smith, 2011; O'Keeffe & Clarke-Pearson, 2011; Arnold & Paulus, 2010), for educational purposes. For instance, it was observed that student use both synchronous (or direct communication such as chatting) versus asynchronous communication (indirect communications such as posting comments or questions on Facebook wall, Rovai, 2002), to share information related to their courses such as course results, lectures cancelled, or if the official Learning Management System (LMS) link does not work.

Base on the respondents, there are students who post questions on both formal platforms (learning management systems) and informal platforms (such as Facebook) and wait for the answers. It seems that peers directly chat or call them through informal platforms such as social media (Facebook), which makes the communication faster and more convenient. However, there was a mixed perceptions among the students, when one student shares a video or picture which is not related to courses for instance in an educational group or through messages. Some stated that It does not affect them and the others mentioned that it may have negative influences and cause distractions or in some cases misleading them. Hence, even though it is proved that the communication through Facebook platform is helpful to share information and exchange knowledge synchronously and asynchronously, and it allows peers to communicate easier and faster, still it may causes distractions and negative effects in some cases. However, if the groups are more structured and specifically designed for formal learning, such problems might would be reduced.

3.1.4 Facebook for Peer/Collaborative Learning

Facebook platform is widely used to enable collaboration and connectivity at massive levels, and it was adapted in the classroom for educational purposes (Shaw, 2017; Chugh, & Ruhi, 2018). Similarly, all students participated in this study believed that Facebook has different advantages when they interact with peers since communication on Facebook creates enjoyable environment, and facilitate the peer interaction even though the platform was not created for that purpose (Keles, 2018, p. 204). Facebook platform is a friendly environment where peers have the possibility to help each other. It allows peers to share useful information and making more friends with their classmates, program-mates, or university peers. Additionally, Facebook enables group discussions and performing task together like assignment or other formal activities. Facebook can connect students in different years of the same program.

As mentioned by O'Keeffe and Clarke-Pearson (2011), Learner to learner engagement is associated with risks such as: online harassment, cyberbullying and there are negative effects of social media like, accessing irrelevant content and privacy issue. In the same way, students mentioned that there are difficulties associated with Facebook usage, when it comes to privacy and security. Others challenges are slow connection that occurs in audio/video calls, which makes the communication challenging, peers who are not active/responsible. The limitations that were identified, besides the lack of connection during audio/video call, group members who are not active or responsible, and security and privacy issue, there is a lack of face to face communication, and inaccessibility of Facebook in some countries where it has been blocked/filtered. Furthermore, participants of this research study pointed out that students who use Facebook for learning purpose should be more attentive in order to enhance educational learning. They added that privacy and group objectives should also be respected by peers.

4. CONCLUSION

This research study shows that there are different benefits and limitations of using Facebook for peer interaction by students. Students that were interviewed show that Facebook is a useful platform for student peer interaction and peer learning, since it provides an easy way of communication among peers for both formal and informal learning. Most of the participants expressed that social network platform such as Facebook is useful for students and it improves educational learning if peers communication become more responsible (standard) and avoid distracting posts and chats. Students also expressed that it may be better if there are some groups on Facebook that both peers and lectures can join to support peer-to-peer and student-teacher interactions. Additionally, it was noted that limitation of privacy and security, connection issue, inaccessibility of Facebook should also be eliminated.

Furthermore, the four categories of strategic suggestions were discussed as; Facebook platform as a means for educational learning; Facebook platform as a means of interaction and collaboration; Facebook platform as a means for information and knowledge exchange, and Facebook for peer learning. These suggestions would be beneficial for students, universities, and this research area to associate with a set of standards for Facebook usage in higher education.

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