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Facebook Group as Platform to Support Online Learning during the COVID-19 Endemic

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ABSTRACT

COVID-19 forces the educational sector to be implemented via online. However, students faced problems to have a good platform for their online learning. Facebook is one of the platforms used for informal learning. Numerous studies have explored the features in the Facebook learning environment but lacked studies on the correlation between the features in the Facebook learning environment towards collaboration and communication. Therefore, this study assesses the correlation between features on Facebook and learning. Thus, this study aims to examine correlation for each feature in Facebook toward communication and collaboration as a discussion platform for student learning. A survey was carried out on 50 undergraduate students in a Malaysian university. The data were collected through a questionnaire adapted from previous study. The descriptive analysis and AMOS regression path analysis were used in this study. The result revealed that perceived ease of use, research material sharing, work related, and facilitating conditions have a significant correlation with collaboration. Moreover, research materials sharing, perceived usefulness, facilitating conditions, and social relations have a significant correlation with communication. Thus, it can be concluded that Facebook groups could support online learning during the COVID-19 endemic. Some limitations and future suggestions were also discussed in this study.

1. Introduction

Today, Facebook has been used by most scholars as an alternative platform for implementing online teaching and learning during the COVID-19 endemic [1]. Facebook has been one of the most popular and known social networking sites that could transform the way of teaching and learning especially in higher education [2,3]. Facebook is a social media that has been used by more than 950 million people every day [4]. Several studies explore the potential and features of Facebook for

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teaching and learning such as providing a great platform during the endemic [5], collaboration [6], and benefits of teaching and learning sessions via online learning [7,8].

Facebook could also develop the trustworthiness between students and instructors through their frequent personal communication. Facebook promotes and allows sharing and exchanging of resource materials for teaching and learning as well as for collaborative purposes [9].

Besides, several studies revealed the positive impacts of Facebook in teaching and learning during the COVID-19 endemic [10-12]. Facebook can offer a new social learning environment, in which several studies revealed that Facebook acts as a learning platform [13-15]. Their studies revealed that using Facebook for learning has a good impact on student learning such as improving writing skills, becoming more confident, and having a good self-efficacy belief. Besides that, students are motivated to learn more via Facebook. Moreover, students use Facebook to discuss course-related problems with peers, which makes them feel motivated and competent in their learning. Students can express their opinions and judgment regarding the discussions on subject matters via Facebook. A study [16] stressed that Facebook provides a social learning environment platform. Social learning could foster students' social presence in online learning, which is one of the important elements of online learning [17].

Facebook has the potential to improve student learning, which encouraged several studies to explore the features and elements of Facebook for learning such as engagement [18], collaboration [19], motivation [20], and communication [21].

Studies are focusing on factors, significant effects, direct effects, indirect effects, and moderators on several variables. However, there is a lack of studies regarding the features of Facebook for collaboration and communication purposes. Thus, this study investigates the correlation between features on Facebook with learning to fill this gap.

2. Features in Facebook as a Discussion Learning Platform

Several studies explore several elements or factors in Facebook for teaching and learning. This study examines ten features of Facebook as a discussion learning platform, which are Perceived Usefulness, Perceived Ease of Use, Social Influence, Facilitating Conditions, Community Identity, Social Relations, Work Related, Resource/Material Sharing, Collaboration, and Communication [22].

Perceived Usefulness:

According to a study [23], perceived usefulness is defined as “the degree to which an individual believes that using a particular system would enhance his/her job performance”. This study defines perceived usefulness as the degree to which an individual enhances sharing, communication, and maintaining a relationship.

Perceived Ease of Use:

The definition of perceived ease of use by previous research [23] refers to “the degree to which an individual that uses a particular system would be free of physical and mental effort”. This study defines perceived ease of use as the degree of ease of use for the features on Facebook.

Social Influence:

Social influence can be defined as “the degree to which an individual perceives how others believe he or she should use the new system” [24]. This study defines social influence as an individual’s perceived usage of Facebook because of several factors.

Facilitating Conditions:

Facilitating conditions is defined as “the degree to which an individual believes that organisational and technical structure exists to support the use of the system” [25]. Thus, this study defines facilitating conditions as several supports and technical infrastructures used in Facebook.

Community Identity:

Previous research [26] stated that community identity is the most important factor that influences an individual’s motivation to participate in virtual communities. According to a study [27], virtual communities refer to groups of individuals who share the same interests, goals, and ideas through the internet. This study defines community identity as sharing common interests, goals, and resources among group members.

Social Relations:

Previous study [26] stressed that “social relations make up an important dimension of Facebook and may include making new friends, maintaining the existing ones, and communicating with them. The social groups include neighbours, family members, groups, and people who share the same interest”. This study defines social relations as individuals who used Facebook for social purposes to maintain relationships with friends and update their status.

Work Related:

A study [22] stated that work related refers to individuals who used Facebook not only for promoting businesses or relationships but also to perform learning tasks. This study defines work related as individuals using Facebook to perform learning tasks, especially for homework and learning courses.

Resource/Material Sharing:

Facebook is a platform to share various educational resources among students and lecturers [22]. In this study, resource/material sharing is defined as the potential of Facebook as a learning platform for students to share resources and learning materials and provide rich multimedia resources to support and improve learning experiences.

Collaboration:

The learning process can be enhanced through the conversational, collaborative, and communal qualities of social networking sites [27]. Collaborative learning as a social interaction that is related to the community of learners and teachers, and they acquire and share knowledge [28]. In this study,

collaboration is defined as the discussions among students in an academic group and a platform to share knowledge and improve group work.

Communication:

Facebook could enhance and promote connections between peers and the academic community [29]. In this study, communication is defined as interaction or communication on Facebook that can promote online connections between friends and lecturers. It is also defined as the degree of engagement of students with the learning course.

3. The Aims of the Study

Figure 1 shows the proposed correlations for each feature in Facebook as a discussion platform for student learning. This study intended to answer the following research questions:

- i. What are the correlations of community identity, perceived ease of use, resource/material sharing, work related, perceived usefulness, facilitating conditions, social relation, and social influences with communication?
- ii. What are the correlations of community identity, perceived ease of use, resource/material sharing, work related, perceived usefulness, facilitating conditions, social relation, and social influences with collaboration?

The following are the hypotheses of this study:

- H1: Community Identity has a significant correlation with Collaboration.
- H2: Community Identity has a significant correlation with Communication.
- H3: Perceived Ease of Use has a significant correlation with Collaboration.
- H4: Perceived Ease of Use has a significant correlation with Communication.
- H5: Resource/Material Sharing has a significant correlation with Collaboration.
- H6: Resource/Material Sharing has a significant correlation with Communication.
- H7: Work Related has a significant correlation with Collaboration.
- H8: Work Related has a significant correlation with Communication.
- H9: Perceived Usefulness has a significant correlation with Collaboration.
- H10: Perceived Usefulness has a significant correlation with Communication.
- H11: Facilitating Conditions has a significant correlation with Collaboration.
- H12: Facilitating Conditions has a significant correlation with Communication.
- H13: Social Relations has a significant correlation with Collaboration.
- H14: Social Relations has a significant correlation with Communication.
- H15: Social Influence has a significant correlation with Collaboration.
- H16: Social Influence has a significant correlation with Communication.

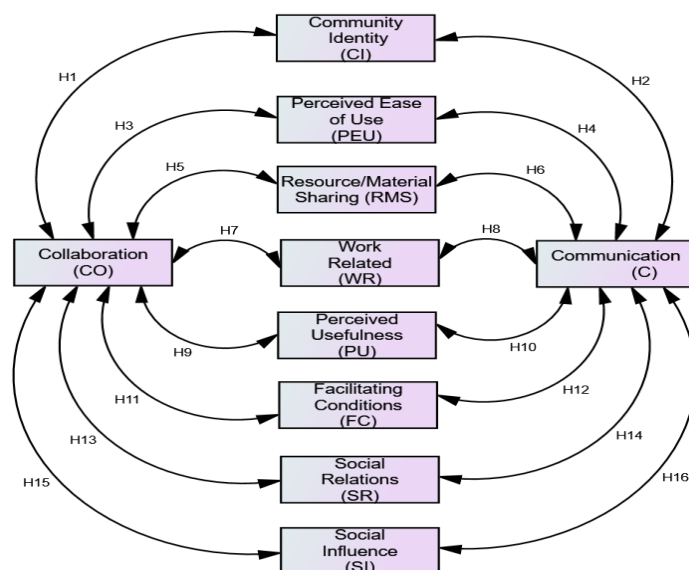


Fig. 1. Proposed Correlation

4. Methodology

4.1 Research Design

This study used the quantitative research approach, namely the cross-sectional survey design.

4.2 Participants

The samples were selected using the purposive sampling technique. The study samples were selected from two classes of students who enrolled in the computing subject during the COVID-19 endemic. Overall, fifty students were involved in this study, and they fit the following criteria: i) students involved in online learning, (ii) undergraduate students from one faculty of a public university, and (iii) students who used the Facebook group for the discussion between the instructor and students.

4.3 Instrument

This study adapted the questionnaire from previous study [22] to study the features of Facebook for student learning. It has two parts, namely Part A and Part B. Part A consists of data demographic, whereas Part B consists of items that use a five-Likert scale from Strongly Disagree (1) to Strongly Agree (5). Before distributing the questionnaires to students, two experts from the educational technology field performed content validation. The reliability test revealed that the questionnaire has a Cronbach's alpha value of 0.93. The value of Cronbach's alpha coefficient should range between 0.9 to 1.0 to be considered excellent [30].

4.4 Data Analysis

This study conducted two types of data analyses. First, the researcher conducted descriptive analyses such as frequency and percentages of demographic data using IBM SPSS software version 23. The second analysis was regression path and weight using IBM Amos software version 23 to

examine the correlation for each feature in Facebook learning. The mean values from Part B were computed before proceeding to the regression path AMOS.

5. Results

5.1 Descriptive Statistic of Respondents

Descriptive statistical analyses such as frequency and percentage were used to explain the demographic profile. Table 1 shows the demographic information for this study which is dominated by female Facebook users (62%) over male users (38%). The majority of participants (90%) accessed their Facebook account every day and only several participants (10%) accessed their Facebook account once a week. Besides, the result revealed that 100% of the participants have experience using Facebook for learning.

Table 1
 Demographic Profile and Descriptive Statistic of Respondents

Items		Frequency	Per centage (%)
Gender	Female	31	62
	Male	19	38
Having a Facebook account	Yes	50	100
	No	0	0
Often access Facebook account	Every day	45	90
	Once a week	5	10
	Once a month	0	0
Experience in using Facebook for online learning during the COVID-19 endemic	Yes	50	100
	No	0	0

5.2 Regression Path and Weight

Regression path and weight was used to examine the correlation of each feature on Facebook with collaboration and communication. First, the mean values from Part B were computed before proceeding with the analyses of regression path and weight. P value is the indicator for the significant value ($P < 0.010$) and very significant value ($P < 0.001$) [31]. Table 2 shows the result of the significant value for the correlation of each feature. Figure 2 shows the final hypothesis which is significantly based on the result of regression path and weight.

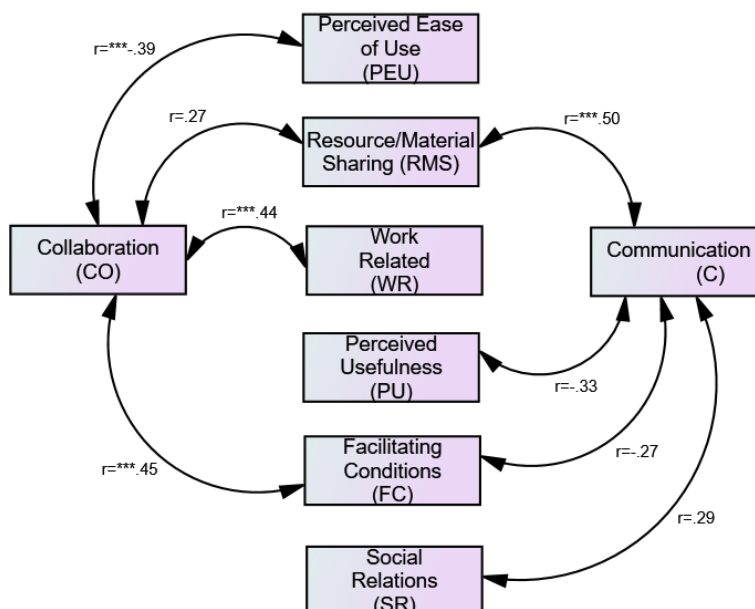
The result from Table 2 shows that Perceived Ease of Use, Resource/Material Sharing, Facilitating Conditions, and Work Related have a significant correlation with Collaboration ($r = -.39$, $r = -.12$, $r = .27$, $r = .45$, and $r = .44$); and Resource/Material Sharing, Perceived Usefulness, Facilitating Conditions, and Social Relations have a significant correlation with Communication ($r = .50$, $r = -.33$, $r = -.27$, and $r = .29$). However, several features have no correlation with Communication and Collaboration. Table 2 shows that Community Identity, Perceived Usefulness, Social Relations, and Social Influence have no significant correlation with Collaboration ($r = .16$, $r = .10$, $r = -.10$, and $r = -.18$). It also showed that Community Identity, Perceived Ease of Use, Work Related and Social Influence have no significant correlation with Communication ($r = -.09$, $r = .23$, $r = .27$, and $r = .15$). Figure 2 shows the summary of the accepted hypotheses for this study. Perceived Ease of Use, Work Related, and Facilitating Conditions have a very strong correlation with Collaboration. Besides that, Resource/Material Sharing has a very strong correlation with Communication.

Table 2
 Regression Path and Weight

Hypothesis	Path	Estimate	S.E.	C.R.	P Value	Result
H1 Community Identity has a significant correlation with Collaboration	CO <--> CI	.065	.035	1.882	.060	Not Significant
H2 Community Identity has a significant correlation with Communication	C <--> CI	-.036	.032	-1.109	.267	Not Significant
H3 Perceived Ease of Use has a significant correlation with Collaboration	CO <--> PEU	-.166	.047	-3.538	***	Significant
H4 Perceived Ease of Use has a significant correlation with Communication	C <--> PEU	.091	.036	2.503	.012	Not Significant
H5 Resource/Material Sharing has a significant correlation with Collaboration	CO <--> RMS	.113	.036	3.118	.002	Significant
H6 Resource/Material Sharing has a significant correlation with Communication	C <--> RMS	.198	.049	4.069	***	Significant
H7 Work Related has a significant correlation with Collaboration	CO <--> WR	.298	.077	3.889	***	Significant
H8 Work Related has a significant correlation with Communication	C <--> WR	.172	.058	2.977	.003	Not Significant
H9 Perceived Usefulness has a significant correlation with Collaboration	CO <--> PU	.052	.043	1.210	.226	Not Significant
H10 Perceived Usefulness has a significant correlation with Communication	C <--> PU	-.165	.054	-3.092	.002	Significant
H11 Facilitating Conditions has a significant correlation with Collaboration	CO <--> FC	.161	.042	3.831	***	Significant
H12 Facilitating Conditions has a significant correlation with Communication	C <--> FC	-.092	.032	-2.932	.003	Significant

	correlation with Communication						
H13	Social Relations has a significant correlation with Collaboration	CO <--> SR	-.043	.036	-1.203	.229	Not Significant
H14	Social Relations has a significant correlation with Communication	C <--> SR	.120	.042	2.844	.004	Significant
H15	Social Influence has a significant correlation with Collaboration	CO <--> SI	-.108	.052	-2.068	.039	Not Significant
H16	Social Influence has a significant correlation with Communication	C <--> SI	.084	.049	1.702	.089	Not Significant

Note: *** is highly significant at 0.001



Note : *** highly significant at 0.001

Fig. 2. Summary of the significant correlations

6. Discussions

This study aims to examine the correlation of each feature on Facebook with collaboration and communication. The study found a correlation between Perceived Ease of Use, Resource/Material Sharing, Facilitating Conditions, and Work Related with Collaboration. This finding is in accordance with a study by previous author [22]. In addition, other studies [26,32,33] supported that Perceived Ease of Use is one of the important elements in online learning such as e-learning and Facebook. The findings of Perceived Ease of Use, Work Related, and Facilitating Conditions revealed a very strong correlation with Collaboration as supported by a study [26]. Previous studies revealed a significant correlation between perceived usefulness and collaborative learning [34,35].

The result showed that Community Identity, Perceived Usefulness, Social Relations, and Social Influence have no significant correlation with Collaboration. This finding contrasted with previous study [22] revealing that Perceived Usefulness, Perceived Ease of Use, Social Influence, Facilitating Conditions, and Community Identity have a significant positive influence on the usage of Facebook. This study revealed that Facebook is used as a discussion platform for resource sharing and work-related matters and is not limited to social activities as supported by previous researcher [36].

Next, this study also revealed that Resource/Material Sharing, Perceived Usefulness, Facilitating Conditions, and Social Relations have a significant correlation with Communication. This finding is in accordance with a study [37] that Facebook is a casual and convenient learning platform that enriches students' knowledge by sharing material and knowledge and encourages interactive and collaborative learning. In addition, A researcher [38] revealed that Facebook had a positive effect including increasing motivation, promoting a positive attitude towards learning, and providing students with an interactive and flexible learning environment for communication and collaboration between instructors and students. A study by a researcher [39] stated that Facebook could foster students' engagement in their learning. These benefits have made Facebook an effective platform that supports students' online learning during the COVID-19 endemic.

Problem-solving skill is also an important element in online learning [40] which can transform individuals to become good problem solvers. Facebook can provide online discussions for students to collaborate and solve problems through scaffolding learning [41]. Facebook is one of the technology tools that can help students in their learning [42]. A study conducted by previous researcher [43] revealed that Facebook can also provide a cooperative learning tool besides promoting collaborative learning. Previous studies strongly supported the finding that Facebook provides a good learning environment that encourages students to become good problem solvers.

This study confirmed that Perceive of Ease Use, Work Related, and Facilitating Condition with Collaboration have the highest significant correlation as supported by previous researchers [44-47]. Their studies found that the factors for the usage of Facebook are perceived ease of use, a great platform for sharing resources, and effectiveness for online collaboration. Besides that, resource/material sharing has the highest significance with communication. Facebook groups can be used for collaboration by assigning students to projects [48], investigating a case study [49], problem-solving learning strategy [41], and simulation-based learning [41]. In general, a Facebook group can encourage students to collaborate during online learning. Instructors need to use Facebook creatively in their online teaching to encourage collaboration and communication.

7. Conclusions and Suggestions

This study has discussed the correlations of the features in Facebook as a discussion platform for learning. In response to the research questions, this study offers a detailed explanation of which feature has a correlation with collaboration and communication among the 50 undergraduate students. Among the eight features on Facebook, only four features (Perceived Ease of Use, Resource/Material Sharing, Work Related and Facilitating Condition) have a correlation with Collaboration. Meanwhile, only four features (Resource/Material Sharing, Perceived Usefulness, Facilitating Condition and Social Relation) have a correlation with Communication. Overall, Facebook can be a learning discussion platform to promote collaboration and communication.

Besides that, this study has some limitations. First, the sample was only limited to students from the computing subject. In the future, it would be interesting to add more samples who took other subjects. Second, the features considered in the instrument were limited to the ones studied by a researcher [22]. In the future, other features in Facebook could be added to the instrument to gain

insights from different perspectives. Third, this study did not include any dependent variables. Future studies could examine other independent variables such as students' performance and knowledge construction.

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