

## Using the Facebook group as a learning management system: An exploratory study

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### **Abstract**

Facebook is a popular social networking site. It, like many other new technologies, has potential for teaching and learning because of its unique built-in functions that offer pedagogical, social and technological affordances. In this study, the Facebook group was used as a learning management system (LMS) in two courses for putting up announcements, sharing resources, organizing weekly tutorials and conducting online discussions at a teacher education institute in Singapore. This study explores using the Facebook group as an LMS and the students' perceptions of using it in their courses. Results showed that students were basically satisfied with the affordances of Facebook as the fundamental functions of an LMS could be easily implemented in the Facebook group. However, using the Facebook group as an LMS has certain limitations. It did not support other format files to be uploaded directly, and the discussion was not organized in a threaded structure. Also, the students did not feel safe and comfortable as their privacy might be revealed. Constraints of using the Facebook group as an LMS, implications for practice and limitations of this study are discussed.

### **Practitioner notes**

What is already known about this topic

- Facebook has been popularly used by tertiary students, but many students do not want their teachers to be friends on Facebook
- Teacher's self-disclosure on Facebook can promote classroom atmosphere, teacher's credibility and student–teacher relationship
- Commercial learning management systems (LMSs) have limitations

What this paper adds

- The Facebook group can be used as an LMS as it has certain pedagogical, social and technological affordances
- Students are satisfied with the way of using the Facebook group as an LMS

- Younger students are more acceptable with the idea of using the Facebook group as an LMS
- Using the Facebook group as an LMS has limitations: it does not support other format files; its discussions are not listed in threads; and it is not perceived as a safe environment

#### Implications for practice and/or policy

- The Facebook group can be used as an LMS substitute or supplement
- Third-party applications are needed to extend the capability of the Facebook group as an LMS
- Using Facebook seems to be more appropriate for young learners than adults
- Teachers do not have to be students' friends on Facebook.

## Introduction

Social networking sites (SNSs) are virtual spaces where people of similar interest gather to communicate, share photos and discuss ideas with one another (Boyd & Ellison, 2008; Raacke & Bonds-Raacke, 2008). In recent years, Facebook has become one of the most prominent SNSs. Like any new technology, Facebook seems to offer great potentials for teaching and learning as many students are using Facebook daily. One possible way of using Facebook for teaching and learning is to use its group as an LMS. Research shows that using LMSs possesses numerous benefits for teaching and learning. It enables faculty to shift the focus from content-based learning to process-based learning (Vogel & Klassen, 2001) and helps to “facilitate change from passive to active learning” (Herse & Lee, 2005, p. 51). Using LMSs also has the potential to increase student enrollment (Nunes & McPherson, 2003) and to promote interaction between students and faculty members (Lonn & Teasley, 2009; West, Waddoups & Graham, 2007).

Using existing commercial LMSs like Blackboard, however, often has practical constraints (Sanchez-Franco, 2010). For example, LMSs tend to be expensive and that not every school can afford to purchase and maintain them over the long run. Trainee teachers cannot access certain features such as creating a course, enrolling students and setting up student groups as these functions are usually open to instructors or administrators only. The resources in the present LMS are often no longer accessible to trainee teachers after their graduation. Also, the LMS used at school in the future may be different from the one being currently used. They have to shift to a new LMS, and research shows learning a new system is often a painful experience (Black, Beck, Dawson, Jinks & DiPietro, 2007).

If the Facebook group can be used as an alternative LMS, it would help to overcome some of the abovementioned constraints. For instance, it would enable a teacher to easily create a new course and enroll students in person if the class size is small. As presented in the following literature review section, many research studies have investigated the usage of Facebook, the effect of teacher's self-disclosure via Facebook on teacher–student relationship improvement and the academic performance of Facebook users. However, few studies have examined if and how Facebook can be effectively used as an LMS. In this exploratory study, the Facebook group was used as an LMS to put up announcements, share resources, organize weekly tutorial sessions and conduct online discussions. The purpose of this paper is to describe how the Facebook group was used as an LMS in the study and to report students' perceptions on it.

## Literature review on Facebook

### *Usage profile*

This body of research answers questions like how many students use SNSs (Facebook or MySpace), how often they use and for what purposes. Mori (2007) found that over 95% of British

students 16–18 years old ( $n = 501$ ) were using SNSs, and 65% used them regularly—with women more likely to use regularly than men (71% vs. 59%). The report of Teens, Privacy and Online Social Networks in the Pew Internet and American Life project showed that 55% of 12–17-year-old teenagers ( $n = 935$ ) were using SNSs, and girls were more likely to use the sites too (Lenhart & Madden, 2007).

Dwyer, Hiltz and Passerini (2007) investigated the use of Facebook by college students with an average age of 20.4 ( $n = 69$ ) and found that more than half of the users accessed Facebook every day, and 82% updated their profiles on a daily basis. Selwyn (2009) found that university students ( $n = 909$ ) used Facebook mainly for reflecting on the university experience, exchange of practical and academic information, and displaying supplication or disengagement. In another study, Madge, Meek, Wellens and Hooley (2009) reported that the majority of the surveyed university students ( $n = 213$ ) used Facebook for social reasons, and about 10% used it for discussing academic work. However, less than 1% used it for contact with academic staff.

#### *Used for building interpersonal relationships*

A number of research studies have found that the use of Facebook increases student motivation, satisfaction, classroom climate and student–faculty relationship. O’Sullivan, Hunt and Lippert (2004) and Mazer, Murphy and Simonds (2007, 2009) identified that the students who viewed an instructor’s website with high levels of mediated immediacy reported high levels of motivation, affective learning, teacher credibility and positive attitudes toward the course and the teacher. However, their studies caution that the information released by the teacher must be proper and should not damage their credibility.

Li and Pitts (2009) reported that offering virtual office hours via Facebook had a positive impact on students’ satisfaction with student–teacher communication outside the classroom. Hewitt and Forte (2006) claimed that interaction via Facebook had a positive impact on the students’ perception of the professor, and about two-thirds of the students who responded ( $n = 136$ ) were comfortable with teachers on Facebook. DeSchryver, Mishra, Koehler and Francis (2009) also found that students were generally comfortable with using Facebook for classes. However, Teclahaimanot and Hickman (2009) suggested that teachers should remain passive rather than active when they interacted with students on Facebook out of class. They should avoid commenting on students’ personal photos or sending an invitation on their own initiative.

#### *Used for engaging student learning*

Research studies on using Facebook for teaching and learning report both positive and negative findings. Schroeder and Greenbowe (2009) used a WebCT forum and a Facebook group to get undergraduate students discussing questions. The use of WebCT was compulsory, while the use of the Facebook group was optional. The result showed that the number of posts on Facebook was nearly four times more than on WebCT, and the postings raised more complex topics and generated more detailed replies. Possible reasons included the students often visited Facebook and spent a lot of time in Facebook. Ooi and Loh (2010) created a Facebook group for a class of Secondary school students to learn the Chinese language and found the Facebook group enabled the students to share course resources and give comments. Also, the use of events allowed the teacher to conveniently organize learning activities such as lesson observations.

However, in a study where undergraduate students were assigned to use Moodle or Facebook as a discussion forum, DeSchryver *et al* (2009) found that the students assigned to Facebook did not write longer or more frequent postings than the students assigned to Moodle. A possible reason was that the students did not like having discussions in a separate system—Facebook—as they had been using Moodle in the course. Kirschner and Karpinski (2010) compared the academic

performance of Facebook users and non-users who were undergraduate and graduate students and discovered that on average the Facebook users got lower grades and spent fewer hours per week studying than the non-users.

## **Course design and implementation**

### *Context*

In this exploratory study, the Facebook group was used in two elective courses at a teacher education institute in Singapore. One was offered to in-service school teachers and employees from corporate sectors to pursue their Master degrees. Sixteen participants took the course and their ages varied from 24 to 55. There were 13 tutorial sessions and each session lasted for 3 hours. Three sessions were conducted online, and the others were face to face. The other course was an elective module for undergraduate students who were majored in different subjects. The class comprised of 15 students aged from 20 to 23. There were 12 sessions and three of which were conducted online. Except differences in the content, the mode of course delivery and the way of using Facebook in these two courses were similar. The tutor of the courses was one of the authors.

### *Setting up a Facebook group*

The tutor created a Facebook group before each course started. The access mode of the Facebook was first set to “open to public” so that access did not require participants to be friends. After all students joined the Facebook group, it was closed so that it could be kept away from random access of other visitors. The activities carried out in the Facebook group included putting up announcements, sharing course resources, organizing weekly tutorial sessions and conducting online discussions.

### *Putting up announcements*

The wall in the Facebook group was used to disseminate just-in-time information. The wall allowed the publication of announcements, which included hyperlinks, pictures and videos. The wall also allowed participants to share resources and get feedback from others.

Another helpful feature of the wall was that whenever a discussion topic or a picture was created in the Facebook group, it would automatically appear on the wall, which makes keeping track of the activities happened in the group convenient.

### *Sharing course resources*

Course materials may exist in any format such as a text file, a PPT presentation, or a PDF document. But Facebook could only work with materials in either a picture or a video format. A third-party application—Google Docs (<https://docs.google.com>)—was used to negate the short-fall of Facebook. A file in a different format was first uploaded to Google Docs. The address generated from Google Docs was then copied onto the Facebook group. Clicking on the address link would open the file. To further facilitate the ease of access, Google Docs was configured in such a way that the students needed no Google account to access the file.

### *Organizing weekly tutorial sessions*

The event function in the Facebook group was used to organize weekly course materials. In each course, weekly materials were uploaded to the event. Also, a profile picture of the event was carefully chosen to represent the topic of that session.

The access to the event was also set to “open” so that every student could easily access the page without a request. Another feature of the event was that once an event was created, the event information was automatically placed on the group wall. This helped to keep every participant updated on the happening of the course. An additional advantage of using the event to organize

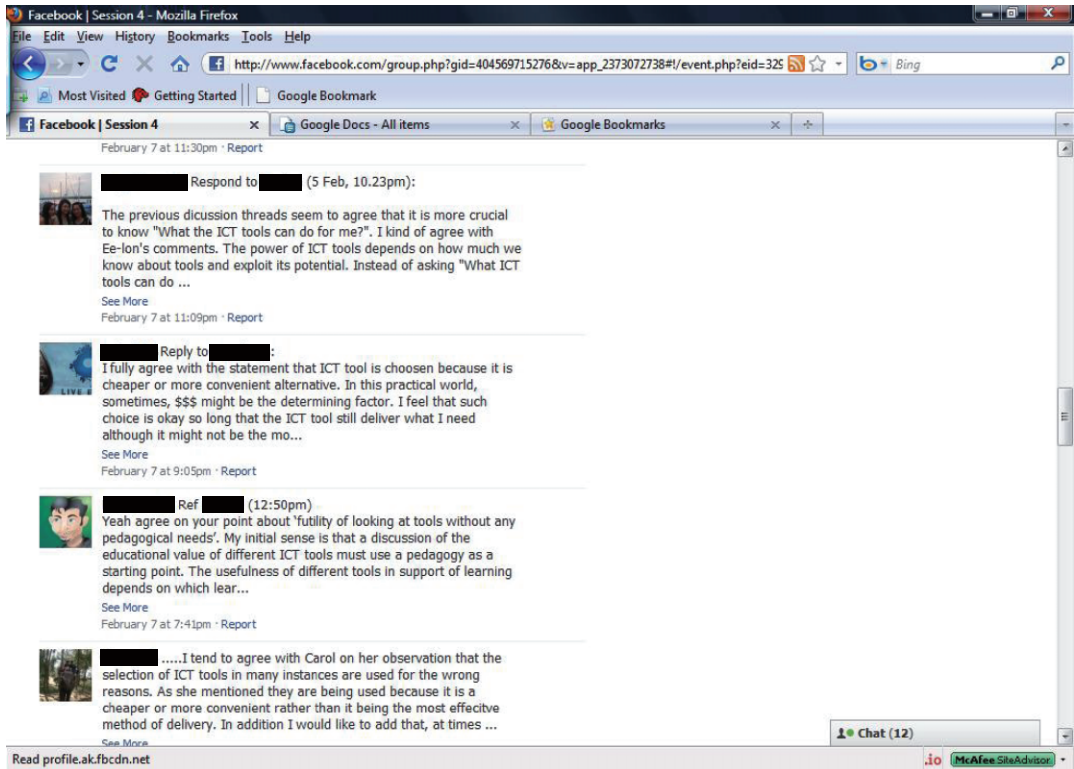


Figure 1: Online discussions in a Facebook event

tutorial sessions was that the tutor could easily monitor students' participation as the names of the students who visited the event were kept on the page automatically.

### *Conducting online discussions*

Two different ways of conducting online discussions were explored. One way was to use the feedback space under the event function, and the other way was to use the default discussion function located on the Facebook group.

It was found that using either way for discussions could support basic sharing of ideas but both had limitations. Facebook simply added a response to the end of the discussion without taking into account if the response was referring to a particular post. Students had to deliberately repeat the previous postings in their present comments in order to make the connection between the two postings clearer, as shown in Figure 1.

### *Other administrative matters*

The Facebook group was also used to host an online survey that aimed to get feedback on the design of each course. Like using Google Docs, the survey was created by using a free third-party tool called KwikSurveys (<http://www.kwiksurveys.com>; Dover, UK). This tool generated a link after a survey was designed. The link was posted onto the wall of the Facebook group. In addition, a spreadsheet created by using Google Docs in the Master course was also linked to the Facebook group to allow the students to choose their preferred timeslots for oral presentations.

### *Research question and the instrument*

The pedagogical, social and technological affordances often determine the usefulness of an information and communication technology (ICT) tool or a technology-enhanced learning environ-



ment (Kirschner, Strijbos, Kreijns & Beers, 2004; Wang, 2008). To examine if the Facebook group was successfully used as an LMS in this study, an online survey was conducted at the end of each course. The survey aimed to answer the following research question:

- What were the students' perceptions on using the Facebook group as an LMS?

More specifically, the survey aimed to find out if the students were satisfied with their experiences with the pedagogical, social and technological affordances of Facebook group used as an LMS. This 15-item survey (with 5-point Likert scale) also included an open-ended question focusing on each aspect of the affordances for the respondents to elaborate their opinions. Because the Master students had greater opportunities to use the Facebook group in the manner that had been taught in the course, their survey had two additional items (Q16 and Q17) asking them whether they liked the idea of using the Facebook group as an LMS and whether they planned to use it in a similar way in the future. A total of 14 participants from each course completed the survey.

## Results

### *Pedagogical affordances*

Pedagogical affordances refer to the extent to which the Facebook group could be successfully used as an LMS (Wang, 2008). Table 1 shows the descriptive data about the perceived affordances of Facebook. The participants agreed that the wall of the Facebook group provided a useful platform for sharing information and resources. They felt that the wall was similar to a notice board which updated them regularly on their classmates' activities.

Despite the inability of Facebook to support files in formats other than pictures and videos, the participants concurred that sharing learning resources with the help of a third-party application was acceptable, and they did not feel downloading files troublesome. In addition, the participants also agreed with organizing weekly learning activities by using the event function and that had been found to be meaningful to their learning.

In all, the students agreed that the Facebook group was implemented successfully as an LMS. However, Q5 got the lowest mean score ( $M = 3.7$ ) and the highest standard deviation value ( $SD = 1.2$ ) among the pedagogical affordances from the Master class, which implies that some Master students were dissatisfied with using the Facebook group as an LMS. A Master student who strongly disagreed with Q5 explained that:

Facebook is an excellent social tool. However it's fundamentally flawed as a LMS. Yes, it's free; and that's a big plus for any small school or organisation looking to run a LMS. However, it's also quite limited. Posts are restricted in length, making essays impossible. The interface is mildly confusing at best and idiotically constructed when viewed by anyone who has ever designed user interfaces. Its use as a LMS adversely interferes with normal social interactions (eg. Why would I want people to know that I responded to some posts on an educational topic when I just want them to see pictures of my kids playing around.)

### *Social affordances*

Social affordances refer to the extent to which the Facebook group could provide a safe and friendly environment in which the students could conveniently communicate and interact with one another. The undergraduate students basically believed that the Facebook group provided a rather safe environment. However, the opinion of the Master students was more negative than that of the undergraduate students ( $M = 2.9$  vs.  $M = 3.9$ ). They were more worried that their academic postings could be viewed by their Facebook friends through the automatic notification.

The undergraduate students felt that they knew their peers better and some of them became Facebook friends during the course. The Master students agreed that the Facebook group did help them know their peers better, but the extent was relatively lower. One Master student mentioned that knowing peers better would require the peers to become friends so that their profiles could be viewed. However, the course did not force them to do so and so most of them did not do it.

Table 1: Students' perceptions on using the Facebook group as an LMS

	Undergraduates (n = 14)		Masters (n = 14)	
	Mean	SD	Mean	SD
<i>Pedagogical Affordances</i>				
1. I could sense what peers and the tutor did by viewing the posts on the wall	4.3	0.6	4.1	0.8
2. I could share learning resources in any format such as PPT or DOC in the Facebook group	4.4	0.6	3.9	1.0
3. Facebook enabled us to have online discussions with peers	4.5	0.5	4.2	0.7
4. The weekly learning activities were well organized by using events	4.4	0.6	4.2	0.8
5. The Facebook group was successfully used as an LMS in this course	4.1	0.8	3.7	1.2
<i>Average</i>	4.3	0.7	4.0	0.9
<i>Social Affordances</i>				
6. The Facebook group was a safe environment for sharing ideas and resources	3.9	0.5	2.9	0.9
7. The Facebook group provided a friendly environment for social interaction with peers and the tutor	4.4	0.6	4.0	0.9
8. The Facebook group enabled us to communicate at our convenience	4.4	0.6	4.1	0.6
9. I know peers better through the use of Facebook	3.6	0.7	3.1	1.0
10. I feel close social relationship existed in the Facebook group	3.2	0.6	2.9	1.0
<i>Average</i>	3.9	0.8	3.4	1.0
<i>Technological Affordances</i>				
11. I did not meet technical problems when I was using Facebook	3.4	1.2	3.9	1.1
12. I could easily join the Facebook group and weekly sessions	4.3	0.6	4.5	0.5
13. I found it easy to get the Facebook group to do what I wanted it to do	3.7	1.2	3.2	1.1
14. I can easily create new threads and reply to others in "Discussions"	4.5	0.5	3.9	0.9
15. I could easily upload and download resources in other formats (PPT, DOC, PDF, web pages)	3.8	1.0	3.9	1.0
<i>Average</i>	3.9	1.0	3.9	1.0
<i>Overall</i>				
16. I like the idea of using the Facebook group as an LMS	—	—	3.1	1.4
17. I plan to use the Facebook group in a similar way in the future	—	—	2.9	1.3
<i>Overall average</i>	4.1	0.9	3.7	1.1

LMS, learning management system; SD, standard deviation.

The participants were doubtful about the existence of close social relationship in the Facebook group. An undergraduate student stated that Facebook only allowed them to communicate in text rather than in voice or video. She could not see the body language or gesture of others on Facebook. Hence, close social relationship was hard to establish. This was supported by the feedback from another Master student who explained that:

There was no close interaction because it was "forced". Some people in our group made some effort to integrate, but basically it just didn't work. People didn't use their own pictures so in many situations I didn't even know who was posting ...

#### *Technological affordances*

Technological affordances investigate the extent to which the Facebook group could be used without technical difficulties. The low mean scores ( $M = 3.4$  and  $M = 3.9$ ) and high standard deviation values ( $SD = 1.2$  and  $SD = 1.1$ ) to Q11 obtained from the two classes indicate that the participants encountered certain technical problems. One noticeable problem was that the insti-

tution could have implemented certain measures in the network firewall to disallow some features of Facebook, and sometimes the information was displayed incorrectly. This problem did not happen when they accessed Facebook outside the institution.

Some other technical constraints were also experienced when they were using Facebook. The constraints were reflected on the low mean scores and high standard deviation values to Q13 (undergraduate:  $M = 3.7$ ,  $SD = 1.2$ ; Master:  $M = 3.2$ ,  $SD = 1.1$ ) and Q15 (undergraduate:  $M = 3.8$ ,  $SD = 1.0$ ; Master:  $M = 3.9$ ,  $SD = 1.0$ ). One Master student mentioned that replying to postings in the discussion forum was not straightforward because the system did not support threaded discussions. He had to explicitly specify which posting that his reply was referring to. In addition, four students from each class strongly disagreed that they could upload or download learning resources in other formats. Nevertheless, most students agreed that the discussion function in the Facebook group had provided the basic affordance for discussions to take place.

As indicated by the low mean scores to Q16 and Q17, the Master students were neutral to the ideas of using the Facebook group as an LMS. They did not mind using it in a similar way. However, it seems that most likely they would not use it as an LMS if a commercial system was available. In general, the undergraduate students were more positive ( $M = 4.1$ ,  $SD = 0.9$ ) toward the use of the Facebook group as an LMS than the Master students ( $M = 3.7$ ,  $SD = 1.1$ ).

#### *Students' concerns*

Some other concerns were also raised in this study. One was that Facebook appeared to be a good tool to support communication and social interaction but not for formal learning. A Master program student stated that:

Facebook is a pretty good social networking tool. As it encourages mainly comments or feedback, the length of each reply is therefore rather limited. As regards this, Blackboard provides a better medium for selective group discussions and sharing of document files.

Other students expressed that they were uncomfortable with using Facebook as an LMS. Common reasons included: (1) they did not want their friends to know what they were doing in the course; (2) they felt insecure as non-registrants for the course might easily join course events; and (3) Facebook was more appropriate for interactions between social friends.

In the process of course design and implementation, the tutor felt that it was easy to set up a Facebook group and had more control than using a commercial LMS. The tutor as a creator of a Facebook group could enroll or remove students easily. In addition, the tutor noticed that it was quite troublesome to add teaching materials. The tutor had to upload files to Google Docs and put the links to Facebook. Comparatively, it is easier to upload files in LMSs. Also, moderating online discussions in the Facebook group was harder as the posts were not organized in threads.

## **Discussion**

The primary purposes of this study were to explore ways of using the Facebook group as an LMS and investigating students' perceptions based on their experiences. The finding of this study confirms that the Facebook group has the potential to be used as an LMS. It allows making announcements, sharing resources, taking part in online discussions and participating in weekly activities, which are the basic functions of an LMS. Also, using the Facebook group as an LMS gives teachers more control than using commercial LMSs and overcomes certain limitations of commercial LMSs. However, this study also reveals that using the Facebook group as an LMS has a number of constraints as well.

#### *Constraints of using Facebook as an LMS*

The Facebook group does not support learning resources in other formats such as PPT or PDF to be uploaded directly, and thus third-party web sites have to be used to overcome this limitation. In



these two courses, Google Docs was used to host learning materials of other formats, and Kwik-survey was used to collect feedback from the participants. The result showed that the integration of external tools supplemented and enhanced the capability of the Facebook group as an LMS.

Discussions are not listed in a threaded structure but in a chronological order only, which makes giving replies and responses unnatural. The students in this study had to explicitly mention the names and posts they referred to when they replied to existing messages. Although this helped to create connections among posts, tracking discussion development became complicated and troublesome. This finding is consistent with the result of DeSchryver *et al* (2009), who found that the students did not like the different way of conducting discussions on Facebook. Hopefully, the involvement of Facebook can eliminate this limitation.

The Facebook group is not perceived as a safe environment, even though it provides different access control such as being open, closed or secret. In this study, the Facebook group was set to "closed," and the students were not required to be friends. The students, in particular the Master students, however, still did not perceive it as a safe environment. They were commonly worried about, on the one hand, their academic performance in the course could be discovered by their social friends; on the other hand, their personal information and social lives might be accessed by the tutor. This study confirms that privacy and Internet safety become a critical concern in social learning environments (Wishart, 2004), and students must feel safe, secure and comfortable when they are using socially enabled environments (Karahasanovic *et al*, 2009).

### *Implications*

The positive result of this study implies that the Facebook group can be used as an LMS substitute or supplement. In schools where commercial LMSs cannot be afforded, the Facebook group can be used as a fully functioning LMS. In other schools where commercial LMSs are already in use, the Facebook group can be used in extracurricular activities to supplement social interactions and personal profile spaces, which are often found insufficient in LMSs (Mazman and Usuel, 2010).

The result of this study implies that Facebook is more appropriate for young learners. In this study, the undergraduate students were in general more positive with the use of Facebook than the adult Master students. To a certain extent this result confirms that young people as digital natives are more acceptable to new technologies, and matured learners as digital immigrants are usually more critical and reluctant to accept new technologies (Vodanovich, Sundaram & Myers, 2010). Therefore, teachers must be cautious about using Facebook for teaching and learning as not all students at different levels may like the idea.

This study also implies that teachers do not have to be students' friends on Facebook. The Facebook group was set to "open" for students to join and changed to "closed" afterwards in the courses. By doing this, the teacher avoided being a friend of the students, and hence resolved the problem that some students might dislike their teachers to be friends as identified by Hewitt and Forte (2006) and Madge *et al* (2009).

### *Limitations and future study*

This study faced some limitations. The students felt insecure in this study as they used existing Facebook accounts. Research shows that learners tend to separate "life" from "studying" and "home" from "lectures". They do not want to mix learning with social lives (Jones, Blackey, Fitzgibbon & Chew, 2010). Future research will explore student perceptions on using a separate Facebook account for learning. However, it may lose social dynamism and also may compromise the kind of sustainability that makes Facebook popular.

This study did not compare the effects of using Facebook as an LMS with other commercial systems like Blackboard. The causes and effects of using Facebook to support learners' learning in blended or online courses were also not investigated. Future research should investigate compar-

ing students' learning effectiveness of using Facebook as an LMS and using a commercial LMS in a solely online learning setting. By so doing, a deeper understanding of the affordances of Facebook will not only be achieved but the currently regarded constraints may become improvable and temporary obstacles that may be overcome in the spirit of continued efforts of research and development of Facebook for the large community.

## Conclusion

The Facebook group has the potential to be used as an LMS. It has pedagogical, social and technological affordances, which allow putting up announcements, sharing ideas and resources, and implementing online discussions. Using the Facebook group as an LMS, however, has certain constraints. It does not support other format files to be uploaded directly, and the discussion is not organized in a meaningful structure. In addition, the strong social connectivity of Facebook is a double-edged sword. It enables students to easily communicate and interact with peers and the teacher. However, it fails to provide a safe environment as students' perceived privacy is decreased. For effective use of Facebook in learning, many other factors like sound instructional design, positive teacher attitude and strong technical support are crucial (Ozkan and Koseler, 2009), without which the potential will hardly be realized.

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