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Facebook Groups as an Academic Teaching Aid: Case Study and Recommendations for Educators

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ABSTRACT

The move from a walled garden type Learning Management Systems (LMS) to open environments (like Facebook) forces us to adapt new teaching ways. This article offers a brief review of the use of Facebook groups in learning, describes the experience of using Facebook groups in an academic institute, explains the considerations for choosing the type of group and provides detailed technical guidance for teachers and students, including recommendations for enhanced privacy and Internet security and for reduction of information overload. Good technical understanding of the Facebook platform and active participation (at least once daily), are recommended for successful use. Facebook groups have been used by the authors during 2012 – 2014 in 12 courses. Overall results show that the use of Facebook groups for academic purposes is favoured by the students. From the educators' vantage point: communication with the students was fast and easy. Email alerts enabling communication with the students, but without the need to "live in Facebook" an answer to one student was visible to all. To sum up: the experience of both the students and the authors is favourable. Finally, the acceptance of Facebook as an LMS was analysed using a simplified version of the Technology Acceptance Model.

Keywords

Social network sites, Blended learning, Privacy, Learning management systems

Introduction

The use of social networks in teaching is not only a matter of convenience. In the introduction to his famous article Digital Natives, Digital Immigrants, Marc Prensky (2001) noted that "Our students have changed radically. Today's students are no longer the people our educational system was designed to teach" (bold typeface in the original). Furthermore, he stated that "because the single biggest problem facing education today is that our Digital Immigrant instructors, who speak an outdated language (that of the pre-digital age), are struggling to teach a population that speaks an entirely new language." Four years later Prensky (2005) suggested that "Students want and deserve to receive this content through 21st century tools that are powerful, programmable, and customizable—through tools that belong to them. We could offer this content to them on their cell phones, for example."

Integrating networking technology into classes can be done in many ways, on the continuum of no technology at all at one end, to fully-online courses on the other end. In between there are various options to conduct a blended learning course (Garrison & Kanuka, 2004; Graham, 2006; Valiathan, 2002). Most of the implementations of technology enhanced learning (TEL) use a walled garden solutions, mainly a LMS systems (Alier, Casañ, & Piguillem, 2010; Bhattacharya & Dron, 2007). Those systems protect the learners from outer content, supply the adequate intimacy needed for social presence (Noy, Raban & Ravid, 2006) and provide a sense of a learning group that works together in the learning process. At the same time, walled garden solutions force the learners to move from the platforms which they use for their daily computerized activities to the propriety systems. Recently, educators started replacing LMS systems with open systems. Open systems have many advantages and can be integrated easily with the learner regular activities and make him learn all the time. While open systems have many advantages, we are still forced to solve some challenges, for example how to supply the group sense to each learner. In the early days of using Internet technology in classes, educators complained that they need to maintain the course site and answer to student's e-mail 24/7. We hope that the use of open systems, like Facebook, for learning will enhance their use outside regular teaching hours and extend the class to the external environment.

Facebook (FB) is one of the "21st century tools" that are the playground of the digital natives and can be used for teaching purposes. By August 2013 the total number of Facebook (FB) users has reached 1.5 billion!! (Smith, 2013).

The percentage of Facebook users in the age group of 18 – 29 (the age of most students) approaches 90% (Brenner & Smith, 2013). This means that a very high percentage of university and college students are very familiar with Facebook. Furthermore, they login to Facebook a few times daily and a large fraction of them practically "live" with Facebook. The familiarity of the Facebook platform and its very frequent use by students makes it an appealing candidate for various learning enhancing applications, in parallel, or instead of other university platforms such as "High Learn" (the Israeli version of Fox system by Britannica), Blackboard, Moodle or others. However, being a social network site, Facebook is open by design. This open nature of Facebook prevented its use in classes since it could not provide adequate intimacy. The Introduction of Facebook closed and secret groups at 2010 enabled the creation of closed, course-specific communities, where only the lecturer, instructor and students constitute the group members. These self-contained communities can be used for asynchronous and synchronous interactions in an academic course. The use of Facebook groups also allows sharing of information, documents, pictures, links to websites, etc. The open nature of the Facebook group (to its members only) provides a convenient platform for cooperative and/or collaborative learning.

The difference between collaborative learning and cooperative learning was explained by Panitz (1996, 1999): Collaborative learning is a personal philosophy, not just a classroom technique. It suggests a way of dealing with people which respects and highlights individual group members' abilities and contributions. There is a sharing of authority and acceptance of responsibility among group members for the group's actions. Cooperative learning is defined by a set of processes which help people interact together in order to accomplish a specific goal or develop an end product, which is usually content specific. Cooperative system is more directive than a collaborative system of governance and closely controlled by the teachers.

Since Facebook groups are essential for the use of Facebook in classrooms, we start by ranking the various types of Facebook groups by their privacy options, then list various uses of Facebook groups for academic teaching, describe the experience of using Facebook groups in a University setting and conclude by providing detailed "how to" recommendations for lecturers and students with an emphasis on privacy and Internet security settings.

Practical use of Facebook as a teaching aid in academic courses

Recent publications discuss the use of Facebook not only as a means of communication between professors to students, but for various other academic uses. Fordham and Goddard (2013), list various application modes of Facebook in teaching and learning, divided into three categories: "formal learning," "non-formal and out of school hours learning" and "wider applications." The use of Facebook in formal learning consists of the following:

- Creating a Time-line or Facebook Group to support the teaching of any curriculum subject.
- Creating a space and platform for homework and revision resources.
- Running debates on topical issues and hot issues in the media.
- Peer tutoring and support.
- A research tool to post, share ideas, videos and resources.

Meishar-Tal, Kurtz, and Pieterse (2012), discuss the use of Facebook as a LMS: "The role of the LMS is to serve as a platform for course sites and to fulfill three goals: (1) to provide students with digital learning materials, such as articles, presentations, summaries of lessons, and arrange them in a way that reflects the course plan; (2) to employ interactive learning activities with students in the forums, wikis, and other collaborative tools; and (3) to manage the course and the learners, maintaining tests, evaluating the students' learning and achievements, and giving grades online." For brevity and further reference we denote the three goals as LMS-1, LMS-2, and LMS-3 respectively. The authors conclude that "the case study described above demonstrates that design and operation of a learning activity within a Facebook group produces a very intensive and collaborative learning process." Similar uses have been described by others as well (Fardoun, Zafar & Ciprés, 2013).

Wang, Woo, Quek, Yang and Liu (2012) discuss their experience of using Facebook's closed groups as an academic learning management system. Their conclusions are: (1) "The finding of this study confirms that the Facebook group has the potential to be used as an LMS." (2) There are constraints resulting from safety and privacy issues: "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." (our emphasis), but the authors do not suggest how to overcome these safety and privacy concerns. We will elaborate on these concerns in the proceeding paragraphs, and describe in detail some practical recommendations how to overcome this critical concern.

In reality, traditional LMS systems also have privacy issues that are assumed risks with class enrollment. Students know each other's names and many of the introduction activities may include optional shared personal information. Face-to-Face classes usually include introductions, also. Facebook as a companion to an LMS should be aware of privacy concerns but not to an extreme.

Privacy of Facebook group types

Facebook allows three types of groups: open, closed and secret, the differences among them is the degree of privacy. The different privacy options are listed in Table 1 (Facebook Inc., n.d.):

Table 1. Types of Facebook groups

	Open	Closed	Secret
Who can join?	Anyone can join or be added by a member	Anyone can ask to join or be added	Anyone, but they have to be added
Who can see the group name and who's in it?	Anyone	Anyone	Only members
Who can see the group description?	Anyone	Anyone	Only members
Who can see the group tags?	Anyone	Anyone	Only members
Who can see what members post in the group?	Anyone	Only members	Only members
Who can find the group in search?	Anyone	Anyone	Only members
Who can see stories about the group on Facebook (like in News Feed and search)?	Anyone	Anyone	Only members

It should be noted that in all group types, each member of a group can navigate to the time-line (wall) of any other member, and see his activities and his friends' activities. This transparency produces a mixing of the learning environment with the private environment of the group members. Detailed instruction how to prevent such mixing are given in Appendix A. Open groups can be discovered by regular Internet search. However, search engines such as Google do not index closed and secret groups and therefore these Facebook groups cannot be found by search outside Facebook (i.e., by using Google). However, closed groups (not secret groups) can be found in a search within Facebook. It should be noted that anyone who finds a closed group can see all its members - names and pictures (sometimes even job and place of residence), but would not see members who have undertaken specific precautions – which are detailed later. In addition, anyone who locates a closed group in a Facebook search can apply for membership – many such applications could be a nuisance.

Only secret groups provide a complete "members only" environment. However, it requires more work to establish - new members have to be personally invited. Facebook friends can be added directly by the group administrator. However, when an educator opens a secret group, the students have to be invited using their email addresses, since usually, students are not Facebook friends of the educator or the instructor.

Academic use of Facebook groups at an academic institution – case study

Facebook groups have been used for communication with students in twelve knowledge management courses held during 2012-2014 at an academic institution. It should be emphasized that all other courses that the students attended were managed conventionally by a propriety LMS (HighLearn or Moodle). Next we examine how the Facebook groups that we used met the objectives of the learning management system as mentioned above.

Communication educators-students

The Facebook groups were used at first mainly for organizational communications between the lecturer/instructor and students such as clarification on submission dates of assignments, posting lists of scores (by personal code, not by name) and more. The Facebook group provides an easy way of recognizing the student (helps in showing familiarity and adding a personal touch): clicking the "about" tab (circled in Figure 1), which displays the pictures of all group members who have a picture in their Facebook profile (Figure 2).

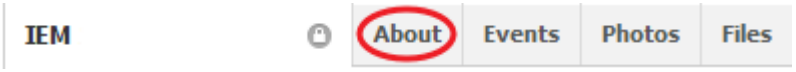

Figure 1. Facebook group main toolbar

The display of the pictures of all group members is active for the group creator only.

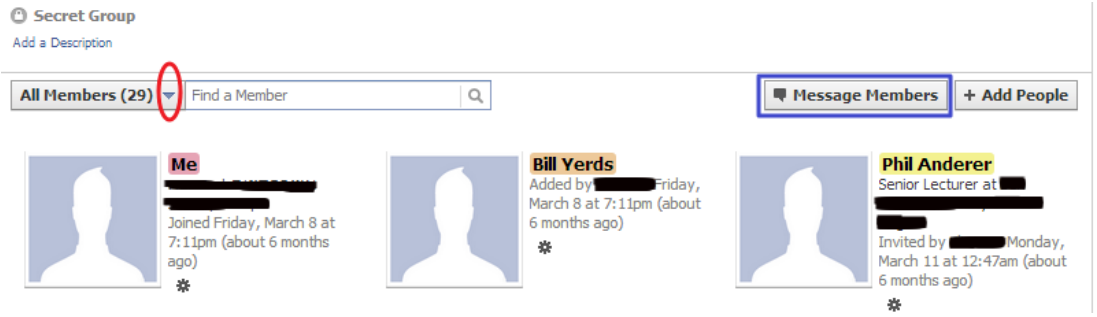

Figure 2. Group's members

This Facebook page has been anonymized (random names) for privacy using Social Fixer (see Appendix B).

Clicking the down arrow near "All members" (circled) provides sorting options. Clicking "Message Members" (squared) shows a multi-chat screen where chat partners can be chosen.

Sending a personal message to one of the group members by any other member is enabled by clicking on the member's name.

The list of students' pictures helps the educator to recognize the students and connect names to faces – thus adding a personal touch to the classroom. Even though we have 100% participation (mandatory), not all students appeared on Facebook with their pictures (Table 2) that includes data for B.Sc. and M.Sc. students. Most M.Sc. students study only part time. Some were working at sensitive workplaces which restricted the use of Facebook - hence the relative large number of blank pictures. In other courses most students did display their picture.

Table 2. Participants in courses with profile pictures

Students type	Total Number of students in course	Number of students with profile picture	Percent of students with profile picture
M.Sc.	39	39	100
B.Sc.	34	33	97
M.Sc.	29	29	100
B.Sc.	33	33	100
M.Sc.	30	29	97
B.Sc.	39	39	100
B.Sc.	10	10	100
M.Sc.	20	17	85
M.Sc.	26	19	73
MBA	55	37	67
M.Sc.	34	29	85
B.Sc.	49	49	100

Event scheduling

Facebook allows for organization of events (real and virtual) such as irregular meetings, or schedule additional exercises. The events are created using the events tab and "+ Create event" (Figure 3).

Figure 3. Event creation form

Surveys and polls

Using the built-in option "Ask a Question." Facebook allows the preparation of a structured questionnaire (Figure 4), with answers can be prepared in advance to choose from. The students found this option convenient for their purposes and used it for coordination among them. The following example (Figure 4) was modified to show the options in English (original post in Hebrew).

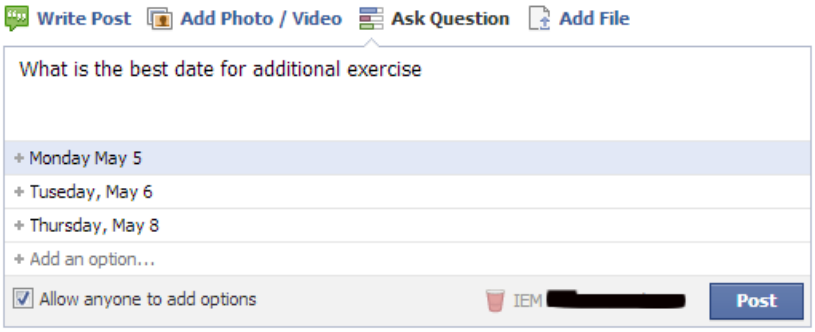

Figure 4. Facebook's surveys

Conclusion: all uses listed above are consistent with LMS-3.

Links to Students' homework in the academic institution Knowledge Management courses include some online assignments: personal blogs on the subject of lectures, wiki group exercise (article summary or KM case study), YouTube videos clips on the subject of knowledge management and mashup creation. The students were required to post links to their online work in the Facebook group. Any student's activity summary is easily obtained by performing a search on a student's name in using the internal group search option (magnifying glass icon on the group heading line) which provides a condensed list of the all contributions of the student (LMS- 2).

Cooperative learning

The existence of links to the online assignments provided easy access to personal works of other students and so that they were able to comment on them (a part of the assignment in some courses). The lecturer also posted some problems connected to the learned material and the students were asked to suggest solutions (non-obligatory). The

problems and comments initiated quite interesting discussions. Sample questions were posted on the Facebook group to help students prepare to the final exams and the lecturer responded to students' comments regarding these problems. The students also used the Facebook group as a public forum to ask the questions about the forthcoming test. The questions, answers and following discussions were available to all students. These examples are indications to the potential of Facebook groups for cooperative learning. The Facebook group page used as a platform for students to post links to recent publications (updated or appeared two weeks before) relevant to knowledge management. Posting of these "news articles" was not obligatory. The incentive to participate was a simple reward system: every student that published a relevant knowledge item was enrolled as a participant in a books lottery held in the final lecture' maximum one entry per student per week. An example to a news item is shown in Figure 5.

Figure 5. Students news post (example)

Uploading course material

Lecture files were directly uploaded to the Facebook group in cases where the number of relevant files was small (number of files ≤ number of lectures). The advantage of direct uploading is having everything on the same platform. One disadvantage is that the uploaded files are dispersed over the time-line. Searching for uploaded files in groups is easier using the "files" tab (circled in Figure 6).

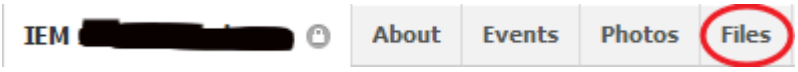

Figure 6. Facebook's files list display button

Clicking the "files" tab displays only the list of uploaded files, in chronological order (the latest is the uppermost), and thus locating files is much easier.

An interesting option in Facebook groups is creating a new file directly from Facebook. It is similar to using Google Docs but provides fewer options. To create a new document: press "+ *Create Doc*," name the document (and write the contents) and then press "+ *Create Doc*" again (Figure 7).

Figure 7. Create a file within Facebook

In cases where we have many files we chose Google Drive as the platform for providing course material to the students, in a similar way to Meishar-Tal et al. (2012). The educator opens a course folder in Google Drive and shares the link with the students by publishing it in Facebook. All files relevant to a lecture were uploaded to a corresponding sub-folder. All new files uploaded to Google Drive are immediately available to the students. The

sharing option used by us was that everyone that has the link could read (and download), not edit. It is sufficient to put the link in Facebook. We pin the message with the Google Drive ling is pinned to the top for easy access. Meishar-Tal et al. (2012) recommend to write the link to the course's folder (on Google Drive) in a file and post the file in the Facebook group. The file is easily accessible using the file tab, preventing the need to look for the link downstream. All these options comply with LMS-1 requirements. Another advantage of using Google Drive is the availability of built-in sophisticated questionnaires (Google Forms). It is easy to write a questionnaire, put it in the course folder and the results are automatically summarizes in an Excel file.

Basic requirements for using Facebook groups in class

- The teacher, usually a "digital immigrant," must be proficient in the use of Facebook.
- All students in the class must use it (be group members).
- The Facebook group should legitimately co-exist with current other Learning Management Systems in the university, e.g., Moodle.

Challenges in using Facebook groups for academic teaching

The practical ability of students to use many Facebook groups simultaneously

As far as we know, this issue has not been tested for Facebook groups that were used as an LMS of some sort. In some academic institutes students opened a few Facebook groups for interaction among themselves in course related issues. For example, first year engineering students in another academic institute in Israel opened themselves 5 closed Facebook groups for discussions – each group deals with a single major course. Our students used a Facebook group for all the discussions between themselves. In addition, students are usually active in many other Facebook groups – not related to learning. Although not a proof, it can be viewed as an indication to the ability of students to handle multiple Facebook groups. Unwanted notifications (noise) can be reduced by using the option to filter notifications, or by turning them off from the "notifications" menu in the top line of the group page. Another, more sophisticated option, is to use Social Fixer's "advanced filtering" (see Social Fixer, Appendix B).

Co-existence of Facebook groups with other teaching platforms

We received a few complaints from students that it is not convenient to use multiple LMS environments simultaneously, but most students did not observe any difficulty.

Privacy and internet security issues

We experienced concerns and objections, similar to those that have been described by Wang et al. (2012). Some students, especially master's students, are not digital natives, and do not behave as such, especially with regard to privacy. A recent research carried on 441 subjects (Kuo & Tang, 2013) found that "research has indicated personality is one of many factors may have some influence on Facebook's usage, information disclosure." We experienced some students who were "Facebook illiterate" and some who were paranoid. Even though these were a minority, we had to find solutions how to get them involved in, since participation was a requirement. We are not aware of solutions to privacy issues pertinent to Facebook groups in education that have been previously published. Security and privacy issues are sometimes an obstacle that must be taken out of the way prior to the implementation of Facebook groups in education. Possible solutions and further describe them in detail in Appendix B. The very few students that would not use Facebook groups due to privacy concerns, even with the measures we describe, were allowed to use Facebook anonymously (requires opening an anonymous email address, e.g., xyz123@gmail.com). The only single strict requirement was that students must provide their anonymous name for grading purposes.

What students think about using Facebook

We asked a few past-students about their personal experience with the use of Facebook groups in class. Overall, the majority of responses were positive or even very positive, for example: “I felt much more comfortable on Facebook than with other LMS, one push of a button is enough to have everything appear and open to everyone.” They mentioned that most courses are using the other LMS so they have to handle and use many platforms, which caused a problem of multiple platforms. The students would prefer that all courses will be conducted in the same platform, namely Facebook. This raises a question: will the need to handle several Facebook groups simultaneously be convenient for students?. Further research is needed to provide the answer to this question. In addition we can report that during the course some students took advantage of the Facebook platform for issues unrelated to learning (Figure 8).

Figure 8. Non course-related post

The translation of the post (from Hebrew) - XYZ company is hiring: looking for students who graduated in 2011 or 2012 and are interested in a marketing career. Those interested should contact me (the student) via Facebook.

A detailed questionnaire regarding the use of Facebook in academic education was distributed among students of some courses, 77 students responded. Most students (49) were at the age of 26-30, 21 were younger and 7 were older. The students reported on the frequency of posting in the course Facebook group: 3 students (4%) published on average more than one post per week, 23 (30%) published on average 1 post per week and 51 (66%) were just passive participants. We regard active participation of the about a third of the students as a success to the use of the Facebook platform. 51 students regard the Facebook group as a convenient platform for communication with fellow students, however only 38 (49%) view this as a convenient platform for communication with the professor and / or the teaching assistant. We have no explanation to this difference since the Facebook group was almost the single channel for such communications.

About half the students (38) regard privacy issues as a problem, 31 of them belong to the elder students. The use of closed or secret Facebook groups resolves most privacy concerns. It is interesting to show the detailed response to the question “do you think that a Facebook group is more convenient than other LMS in the university?” 15 students (19%) gave a grading of 1 out of 5. 8 students (10%) graded it as 2. 19 students (25%) grade it as 3, 17 students (22%) gave 4 and 18 students (23%) gave 5. These results show that altogether the use of Facebook groups for academic purposes is favored by the students. We find high correlation between the score the students gave for the convenience to communicate with the lecturer and the convenience to communicate with other students (r = 0.57) and preference to use it in academic settings (r = 0.62). There is high correlation between the convenience to communicate with other students and the importance to discuss various subjects (r = 0.5). Students who were concerned with the ability to watch their time-line were also concerned with the susceptibility to Internet attacks (r = 0.6). The only difference between males and females is with the number of times they check their Facebook account daily: males check it 2.88 a day while females do it 3.53 times. Comparing the different age group reveal that the only differences are in number of times they check their account and post to it.

From this plot (Figure 9), it is clear that students older than 31 visit Facebook less frequently.

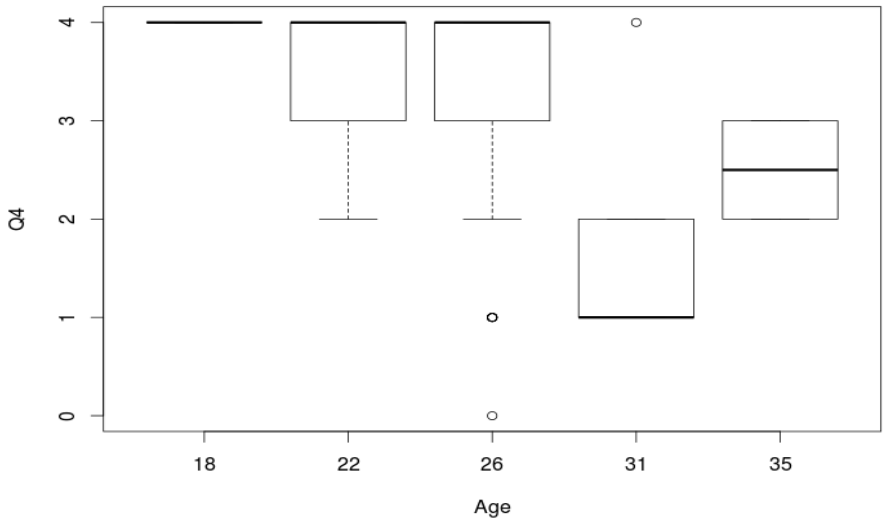

Figure 9. Boxplot of question "number of times checked Facebook account"

From this plot (Figure 10), it is clear that students of the youngest and eldest students are those that post more frequently in the class Facebook group.

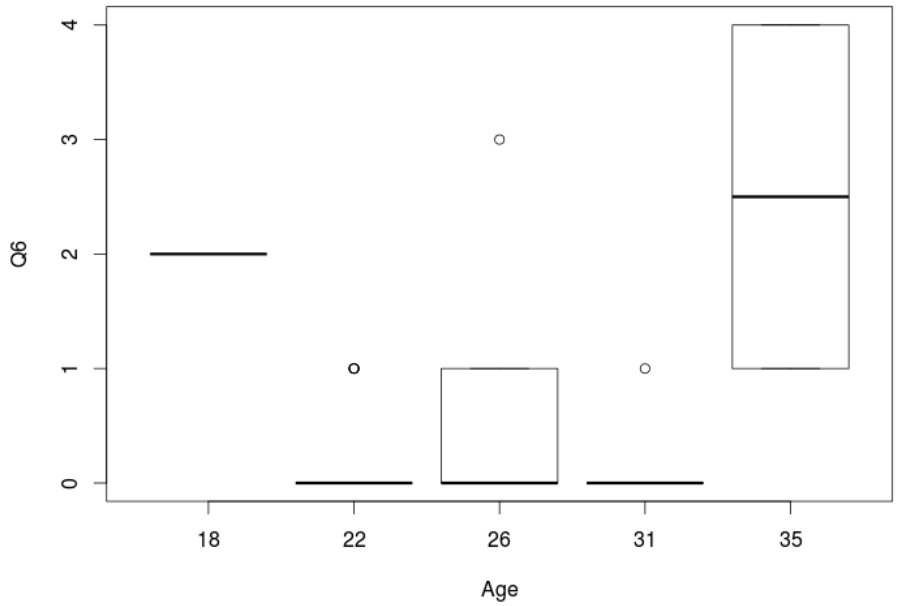

Figure 10. Boxplot of question 6 "How frequently do you post to the course Facebook group"

Analysis of the usefulness of Facebook groups as an LMS using the Technology Acceptance Model (TAM)

Davis (1989), suggested a Technology Acceptance Model (TAM) based on the insight that users' attitudes toward technology are critical factors in their accepting and using new technologies. Perceived usefulness and perceived ease of use are the most fundamental determinants for formulating positive attitudes toward technology and behavioral intention to use technology and, therefore, ultimately define actual use. The acceptance of Facebook as a social network has been analyzed by Rauniar, Rawski, Yang and Johnson (2014), using TAM. We analyze the

acceptance of Facebook as an LMS using a simplified version of the Venkatesh, and Davis (1996) "final model" version of the Technology Acceptance Model for the following reasons (Figure 11):

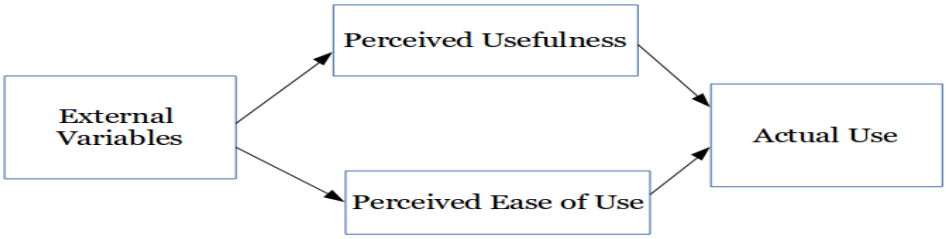

Figure 11. Simplified TAM model.

(A) The use of an LMS in an educational institution is imposed - the students are not given a choice. (B) there are two actual user groups: students and educators (lecturers and instructors). (C) Facebook is already been in use by the students and does not constitute a dedicated learning platform.

Facebook (coupled with Google Drive) is not a dedicated LMS and has many other uses. Both authors, who are savvy Facebook users, were the only lecturers who used Facebook for teaching in the university. The two course instructors used Facebook without any difficulty; hence the research was performed on students only.

Perceived Ease of use: following Zipf (1949) we define perceived ease (PE) of use as the least effort, i.e., each individual will adopt a course of action that will involve the least average work. In this respect Facebook has a great advantage – the students are already there: no new platform to install, no new technique and/or procedure to learn - practically zero learning curve. Furthermore, they enter the platform on daily basis for other purposes - no need for any specific login procedure and additional username/password combination. Most of the students reported that they are familiar with Facebook and know how to operate and handle the environment. However, the co-existence of other LMS for all other courses reduced the perceived ease of use, because of the need to use two environments side by side. Future use of the Facebooks groups as a single environment has a potential to eliminate this difficulty.

Perceived Usefulness: Perceived Usefulness (PU) is a user's assessment of his/her "subjective probability that using a specific application system will increase his or her job performance within an organizational context" (Davis 1989). The educators regarded the use of the Facebook as LMS as "providing the goods." From students comments we learned that the usefulness of Facebook as LMS is a double edged sword. On one hand, they are frequently on Facebook for other activities hence they can interact with their classmates and the study materials (some reported that the blending of hedonic activities and learning ones is undesired for them). On the other hand, the traditional LMS tools incorporate a better user interface for learning, most notifiable comment was that important information and knowledge "scroll away" from their attention too quickly.

Actual Use: Since users (students) have a high perceived ease of use and high perceived usefulness, the introduction on Facebook as a LMS was adopted easily and favored by the students. Another perceived advantage was the promptness of the educators' responses, and those were viewed by almost all students. The class group was also used by the students for easy communication of messages for non-class purposes. Students also opened students-only Facebook groups for collaborative learning of class material for various classes, even those that used traditional LMS.

Conclusion

This paper reports the practical use of closed and secret Facebook groups in 12 knowledge management classes in a university demonstrating the feasibility and advantages of Facebook groups (augmented by Google Drive) as a learning Management System. It should be noted that Facebook can be conveniently used on various platforms such as tablets and smart phones, in contest with dedicated LMS platforms, such as Moodle, where the smartphone applications are quite inconvenient.

Qualitative analysis using the Technology Acceptance Model shows the reasons for the potential of using Facebook as an LMS. Due to its convenience students used this platform for both learning-related and non-learning-related purposes. Further research is required to substantiate this claim for general institutional use. The article provides unique, very detailed, how-to guides for implementation of Facebook groups in high education, including specific instructions for overcoming privacy and Internet security concerns - existence of scientific articles with such detail is unknown to us. This article can therefore be used as a practical implementation guide for educators who wish to utilize Facebook groups as a learning platform in academic institutions.

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Appendix A

Tips for opening and using Facebook educational groups

Creating a group

Clicking on the Create group in the left column of the home page displays the Facebook privacy options of the new group. The first step is entering the group name (obviously related to the course). The second step is to choose the privacy level (closed or secret) and press create. The next step is to add at least one additional group member (a new group must include at least one member in addition to the group creator). This first member can be selected only from the group creator's friends list. If the instructor is not a member of the educator's personal Facebook friends, a random member of the group creator's Facebook friends can be added (and deleted from the group after at least one student joined). With closed groups the students are given the group's URL or they can find the group name in Facebook search and then apply for membership. With secret groups this option is not available. New members must be added from the list of Facebook friends, or invited by mail. It is therefore recommended to assign the instructor (or the educator) as an additional group administrator. For opening secret groups it may be convenient to open it at first as a closed group (easier to add members) and then convert to group to a secret one.

Appendix B

Privacy and Internet security

Imaginary privacy problems: New content published within a group is displayed on the home page of any personal Facebook account. This is actually the news feed, and it is visible only to the Facebook account owner himself. This content does not appear on the "time-line" (wall) which all his Facebook friends can see. Some students were not aware of this difference and complained that their Facebook friends (not only the group members) can see all the group content. Therefore it is important to explain this difference.

Privacy and safety measures: Educators and students concerned about the privacy and Internet security can add one or all of the following four "calming elements" which are not extreme and easy to add:

- Prevention of the ability of a group member (in our case educator and/or student) to see the "real" Facebook friends of another group member and enter their Facebook pages. This setting is important in general with regard to internet safety (Kruse, 2013). The default setting of Facebook is that friends' lists are open to the public. To change these settings: go the personal time-line and click on "friends" and choose "edit privacy" (Figure 12).

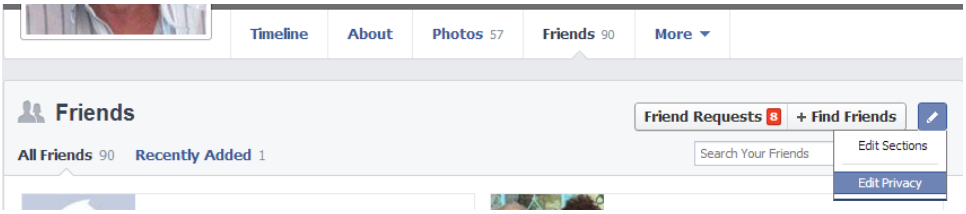

Figure 12. Facebook's friends page

- Here one can choose who can see his friends list and which people and lists one follows. The most stringent setting is "only me." The less stringent privacy setting, but still helpful, is "friends of friends." This specific setting is not visible at the main menu and can be accessed only as a sub-menu of "custom." This setting however is enough to prevent students/educators mixing.
- More privacy options: go to the gear wheel in the Facebook home page of your account and choose "privacy settings." An extensive description of Facebook privacy settings that has recently been compiled by Elliott (2013) and can be used to choose additional appropriate privacy settings.
- Facebook specific free antivirus - Bit Defender SafeGo. SafeGo provides additional protection against scams, spam, malware and phishing attacks. SafeGo homepage is: http://bit.ly/1esW6UH . SafeGo installs as a Facebook application.
- Forcing encrypted surfing. Facebook can be set to use HTTP Secure browsing (HTTPS) protocol, in which the browser uses an additional encryption layer to protect the traffic. Facebook calls this type of browsing "secure surfing." Setting secure surfing: click on the gear in the top right side of the home page, and then click "Account Settings." Click on "security" at the left top of the page – the uppermost option is "secure browsing." If current setting is disabled, click on edit to change.
- Social Fixer browser plug-in (extension). This plug-in allows to easily and comfortably manage all privacy settings on Facebook. Another important bonus is convenience of writing comments on Facebook. Usually using the enter button while responding or commenting in Facebook, uploads the comment instead of creating a new line. Social Fixer has an option to automatically require using tab + enter combination to upload (Figure 13).

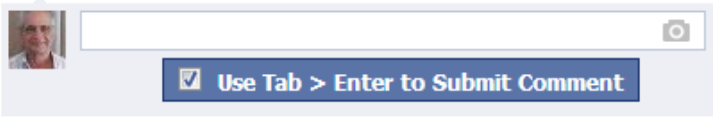

Figure 13. Entering a comment with Social Fixer active

A convenient Social Fixer option is to add more control on posts, such as "mark read." When this option is enabled, hovering the mouse near the upper right side of the post displays 5 more option icons (e.g., mark read), as shown in Figure 14):

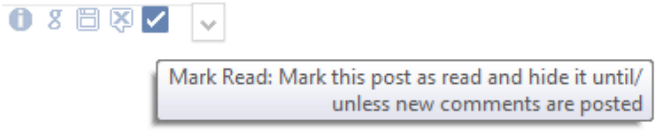

Figure 14. Hovering mouse screen

Another enhancement to reduce information overload is advanced content filtering: "Feed Filters give you full control over what stories you want to see or hide. It also lets you define rules to move stories to separate tabs so they are logically grouped how you want them to be." Figure 15 shows two examples: The first is a filter that hides all notifications from the friend who is second from the top in the friends list (names are hidden for privacy). The second filter eliminates all content containing the word sex.

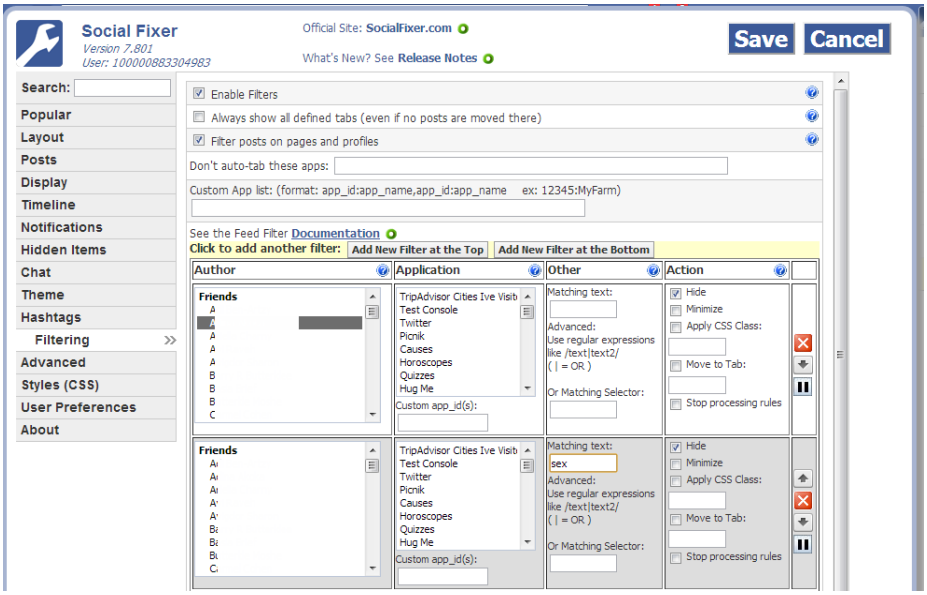

Figure 15. Advanced filtering screen

We recommend reading (Gordon, 2012 and Kruse, n.d.) for an extensive review on Social Fixer.
Note. Social Fixer is available for all common browsers except Internet Explorer.