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Students' educational use of Facebook groups

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Students' educational use of Facebook groups

The aim of the article is to explore educational use of student-managed Facebook groups in upper secondary education (in Denmark). Much research on educational potentials of Facebook has studied groups managed by teachers. However, there is a lack of in-depth research on Facebook groups managed by students and without participation from teachers. As this study shows, students’ use of student-managed groups differs from their use of teacher-managed tools such as Learning Management Systems (LMS). The article presents an empirical study based partly on a content analysis of 3,139 posts and 15,018 replies within 5 Facebook groups, and partly on a questionnaire answered by 1,463 students and 148 teachers. The results of the study show that whereas LMSs were seen by students primarily as institutional systems of the teacher, Facebook groups have an educational potential to be used by students for peer-to-peer learning.

Keywords: peer-to-peer learning; Student-managed Facebook groups; Social media; Learning Management Systems

1. Introduction

Within educational technology research, educational use of Facebook has been treated extensively from different perspectives and with Facebook in different roles (Manca & Ranieri 2013). Since Facebook is in essence a site for communication and social networking, and since the main reason for people’s Facebook use relates to maintaining communication with friends and family (Aydin, 2012), it is natural to study the educational role of Facebook in relation to socialisation. A study of Madge, Meek, Wellens, & Hooley (2009) shows that Facebook can play a central role in students’ social integration into the school environment. A study of Whittaker, Howarth, & Lymn (2014) has shown that Facebook can also be used to build educational communities between students and teachers, where problem-solving discussions play a key role. Yet another role for Facebook is to utilise it as a Learning Management System (LMS). Several recent studies have explored Facebook being used intentionally as an LMS, primarily managed by teachers (Maleko, Nandi, Hamilton, D'Souza, & Harland, 2013;
Similarly, several studies have examined use of Facebook groups organized by the institution and with participation from both teachers and students (Kio & Negreiros, 2013; Baran, 2010). Meishar-Tai et al. (2012) and Wang et al. (2012) found that Facebook groups can be employed as an LMS; whereas Meishar-Tai et al. (2012) concluded that Facebook has advantages over traditional LMS, Wang et al. (2012) found certain shortcomings of Facebook compared to an LMS.

2. Study motivation

Common to all the above studies is that the Facebook use is facilitated by the institution. The examined Facebook groups of these previous studies are created and managed by teachers, which gives the institution rather than the students the ownership of the groups. In that way, the Facebook groups are institutionalised and become reminiscent of traditional LMSs. The aim of this article is, first of all, to examine the role of Facebook in education *in relation to* LMSs, but not *as* an LMS. In the empirical study presented, all involved schools have an LMS as their basic educational technology. Learning Management Systems are widely used in Danish upper secondary schools. These systems provide tools for communication, file sharing, groups, etc. Common systems include Moodle and Blackboard. LMSs have been criticised for reproducing the structure of a teacher-centered approach to learning (Sclater 2008). As Sclater (2008) states, LMS are often primarily used for storing lecture notes and presentations. Put differently, the systems are primarily institutional systems that manifest the role of teachers, and they do not have a focus on learning activities of students (Dalsgaard, 2006). Within this criticism, the concept of Personal Learning Environments has been brought forward to highlight tools that directly support activities of students, rather than systems that support teachers’ management of courses (Bang and
In the presented study, none of the schools are using Facebook as an LMS. Instead, each class has created their own Facebook group that exists in parallel to the institutional LMS, and that has no involvement from teachers. Students were not asked by the teachers to create these groups, but created them on their own initiative. Similar to the study presented in this article, Selwyn (2009) and Viviana, Barnesb, Geerb, & Wood (2014) have examined students' self-governed use of Facebook for educational purposes. Whereas both these studies provide an analysis of individual students’ Facebook wall posts or personal profiles, the current study analyses Facebook groups. A Facebook group is a communication forum where members can write posts and replies to posts. In the specific groups of the current study, the groups are all closed and only include invited members – only members have access to the communication. Also members do not necessarily have access to each other's Facebook profiles and status updates; members do not need to be "friends" on Facebook to take part in the Facebook groups.

Of course, teacher-managed and student-managed tools do not exclude one another, but they might play different educational roles. Since the latter use of Facebook has been underrepresented in research on educational technology, it is relevant to investigate students' use of tools that are not managed by teachers and do not take on the form of Learning Management Systems. It is the objective of this article to further explore the schism between teacher-managed and student-managed usage of tools. The criticism of LMS and the call for a focus on supporting student activities form the background for the empirical study presented in this article. The study compares students’ use of institutional and non-institutional systems and makes an in-depth study of students’ self-governed use of a non-institutional tool, ie. Facebook
groups. The article begins with an examination of the role of social media and institutional LMSs. Following this initial examination is an analysis of students’ use of Facebook groups that are created and managed by students themselves and without participation from teachers.

3. Research questions

Based on the above study motivation and the discussion on educational roles of Facebook and on institutional vs. non-institutional systems, the following research questions are formulated:

(1) What is the nature of students' educational use of institutional LMS in comparison to social media?

(2) How do students utilise Facebook groups created and managed by students without participation from teachers?

4. Methodology

These research questions are investigated in an empirical study that involves teachers and students from 17 schools in upper secondary education in Denmark (Mathiasen et al., 2013). The study employs a mixed methods approach based on:

- a questionnaire to students and teachers in 17 upper secondary schools
- interviews with students and teachers from each of the 17 schools
- content analysis of communication in 5 student Facebook groups

4.1. Study design and procedure

All 17 schools were visited, and interviews with teachers and students were completed. The questionnaire was distributed to teachers prior to the visits, and most of the student
questionnaires were completed on site to increase the response rate. During the visits, students were asked to provide the researchers access to students’ Facebook groups (see Mathiasen et al., 2013). It is common for students in upper secondary education in Denmark to create Facebook groups for all students in their class. All analysed Facebook groups are created voluntarily by students meaning that their teachers have not asked them to create the groups.

Some ethical considerations are necessary when analysing communication within closed groups (Ess, 2007). It was important to get student consent in class. Students were informed that all data would be used confidentially, and their participation would be anonymous. Students were informed that the objective of the analysis was to study their educational use of Facebook groups. As Ess (2007) states, confidentiality is especially relevant in studies of sensitive issues. This is not the case in the current study. Examples drawn from the data do not relate to personal and sensitive issues. Themes such as conflicts and bullying are not a part of the study. However, because the Facebook groups are closed groups, all names, images and references to people and places have been removed or changed from the data before publication. We gained access to 5 groups. Not all visited classes were asked, but it should be stated that some classes did not wish to provide researchers access to their Facebook groups. In these instances, the students did not agree on providing access, but if a single student did not wish to provide access, we declined membership of the groups.

After receiving an invitation for membership of the groups, we gathered all students’ posts and replies from the date of the creation of the group up to the day we gained access. This was done by saving the source code of the webpage. We left the groups again immediately after saving the source code without interacting with the
students. Following this approach, the researchers did not influence any of the communication taking place within the groups. All communication had taken place prior to the researchers' access to the groups. Further, the students did not know beforehand, that they would be asked for access to their groups.

4.2. Data collection and analysis

The data analysis is based on the following collected data:

- a questionnaire answered by 1,463 students and 148 teachers
- interviews with 4-6 teachers and 4-6 students from each of the 17 schools
- content analysis of 3,139 posts and 15,018 replies from 5 Facebook groups

To address the first research question, teachers were asked about their use of both LMS and social media (such as Facebook or Twitter) to communicate with students. Similarly, students were asked about their use of LMS and social media to communicate with teachers regarding homework and to help each other with homework. The student response rate for the questionnaire was 71.9%, and the teacher response rate was 81.3%.

To address the second research question, a content analysis of 5 Facebook groups (of 5 different classes) was performed employing a netnographic method inspired by Kozinets (2010). According to Kozinets (2010), studies of online forums are comparable to traditional field work and can be studied through observation. The data from the Facebook groups spans 2-3 years of communication for each group. Table 1 shows an overview of the number of days, students, posts and replies within each of the five groups.

Table 1: Number of days, students, posts and replies in the 5 Facebook groups
A content analysis was performed by reading all posts and replies within the 5 groups (Holsti 1969). The objective of the analysis was to identify a variety of categories of student communication. All posts of the Facebook groups were coded for an analytical distinction between social and academic in order to construct categories in a grounded theory method approach (Bryant and Charmaz, 2007). In that sense, the content analysis was partly deductive based on an analytical distinction and partly inductive and grounded (Bryant and Charmaz, 2007). The distinction between social and academic is drawn from existing research on educational usage of Facebook, which has focused on both social and academic potentials of Facebook (for instance Madge et al., 2009; Selwyn, 2009).

Finally, the conducted interviews were semi-structured and based on an interview guide with a range of themes and questions (Kvale, 1996). In the current article, the interviews will be used to supplement the findings from the questionnaire and content analysis.

5. Results

The results of the empirical study will be presented below divided into two headings: 1) The questionnaire shows that students and teachers use social media differently than they use institutional LMS, and that there is also a difference between student and teacher use. 2) The content analysis of the Facebook groups shows that students use Facebook for peer-to-peer learning.

5.1. The roles of LMS and social media

The results from the questionnaire show that teachers to a large extent use the institutional LMSs to communicate with students, whereas they rarely use social media for that purpose. Whereas 92% of teachers “almost all the time” or “often” use an LMS
to communicate with students, the similar figures for social media are only 12% (Figure 1 and Figure 2). Of the teachers, 61% state that they “never” communicate with their students through social media.

Figure 1. Teachers’ use of institutional LMSs to communicate with students

Figure 2. Teachers’ use of social media to communicate with students

As shown in Figure 3 and Figure 4, students’ use of institutional LMSs and social media to communicate with the teacher mirrors the answers from the teachers. 63% of students “never” use social media to communicate with teachers regarding homework, whereas 49% “almost all the time” or “often” do so using an LMS. The latter percentage is considerably lower than the similar percentage for teachers. This indicates that institutional LMSs are primarily used by the teachers.

Figure 3. Students’ use of institutional LMS to communicate with teachers regarding homework and assignments

Figure 4. Students’ use of social media to communicate with teachers regarding homework and assignments

The picture is radically changed when students are asked about their use of LMSs and social media for helping each other with homework (Figure 5 and Figure 6). Whereas only 22% of students “almost all the time” or “often” use the institutional LMS to help or receive help from fellow students, the similar figures for social media are 67%. Only 5% of students “never” use social media to help or receive help from fellow students.

Figure 5. Students’ use of institutional LMSs to help or receive help from fellow students regarding homework and assignments

Figure 6. Students’ use of social media to help or receive help from fellow students regarding homework and assignments
The conclusion from the findings of the questionnaire is that institutional LMSs, and not social media, are used for communication between students and teachers. On the other hand, social media, and not LMSs, are used by a large percentage of students to help and receive help from each other. This conclusion is also reflected in student interviews. Many students explain that the institutional systems are the teachers’ systems, and they are primarily used for one-way communication from the teacher. The Facebook group of the class, on the other hand, is the place where students are present, and this is where they communicate with each other.

In the questionnaire, students were asked to specify tools used for communication related to their schoolwork. The question was answered in free text with no pre-set options. The most frequently mentioned tool was Facebook. Of the 1206 students who answered this question, 82% wrote “Facebook”, while 33% wrote down the name of an institutional LMS. This is a clear indication that Facebook is the most widely used social media of the students.

5.2. Students’ use of Facebook groups: Peer-to-peer learning

From the content analysis of the 5 Facebook groups, the following five categories of student posts emerged:

Social:

(1) Social activities in school
(2) Social activities outside school

Academic:

(3) Subject matter
(4) Study technique
(5) Practical issues

The study and the findings draw similarities to Selwyn (2009) who also examined educational and non-institutional use of Facebook. The difference between the studies is that Selwyn (2009) provides an analysis of wall posts, whereas this study analyses groups. Selwyn’s (2009) study showed that university students were using wall posts for critiquing learning experiences, exchanging logistical and factual information, providing moral support and promoting themselves as academically incompetent or disengaged. The findings of the two studies are very different, which indicates that student communication with classmates in a closed group differs from wall posts written to all friends within the student's network.

6. Discussion

Examples within each of the five categories of student Facebook posts will be presented and discussed below. All examples are translated from Danish by the author, and all names are changed.

6.1. Social activities in school

Students use Facebook groups to discuss social activities and events in school, primarily official parties hosted by the school. For instance, students use the Facebook groups to plan their participation, coordinate clothing and payment, as seen in this example. There are many examples of discussions related to different social activities. Students coordinate joint purchase of sweaters, discuss imprint for the sweaters, vote on how to dress up for class photos, or they plan entertainment for plenary sessions at school:
Peter: How do we organise payment for the gala dinner? Is Heidi on top of it, and do we then bring money for her tomorrow. The deadline is the day after tomorrow :)  
*March 17, 2013 at 7:52pm*

Heidi: How about you all bring me 150 kroner tomorrow?  
*March 17, 2013 at 7:57pm*

Karen: Ok!  
*March 17, 2013 at 8:58pm*

### 6.2. Social activities outside school

Similarly, the groups are used to discuss activities outside school. Students invite each other to parties and other social events such as going to the movies or going bowling. Students often discuss when and where to organise a party. For instance, they plan events by using polls to vote for dates. They discuss and coordinate, what to bring, who should bring it, and how they should pay each other:

Maggie: Hey guys! - how about having a party at the Lion bar? - plenty of room, we have the place 8-12pm, one hour of free beer, and 10 kroner a beer for four hours, we will pay 20-25 kroner each? We could have the party Friday the 17th, which is our last day of school.  
*March 26, 2013 at 4:38pm*

Combined, the two social categories show that Facebook groups play a role for students as forums for discussions, negotiations, coordination, and planning. There are many examples of lengthy communication spanning days or weeks, where students negotiate and plan social events.

### 6.3. Subject matter

This category of posts relates directly to subject matter of the school courses. Students
ask questions and engage in discussions concerning subjects relating to assignments, homework and projects. There are instances of questions that are quickly solved with precise answers. Questions like: “What are your results in assignment number 5?”, “Just to be sure, are we talking about Great Britain or England?”, and:

Susan: Does anybody know what the oxonium ion solution is??

*January 22, 2013 at 5:23pm*

Rita: H3O+ = 10^-pH

*January 22, 2013 at 5:27pm*

Susan: Thanks!

*January 22, 2013 at 5:28pm*

Other questions lead to lengthy exchanges of replies, where students discuss and explain topics and concepts:

Robert: Is internal energy and heat capacity the same?

*October 27, 2011 at 8:18pm*

Jerry: No, internal energy = mass * heat capacity * change in temperature

*October 27, 2011 at 8:21pm*

Jerry: *change in internal energy

*October 27, 2011 at 8:21pm*

Robert Okay, thanks :-)

*October 27, 2011 at 8:24pm*

Robert: or isn’t it DELTA T that means change of temperature?

*October 27, 2011 at 8:25pm*

Tiffany: Exactly :-)
Robert: ΔEinternal=m*c*ΔT - isn’t that the same as heat capacity=m*c*ΔT
October 27, 2011 at 8:26pm

Robert: almost
October 27, 2011 at 8:27pm

Jerry: No, c= heat capacity :-)  
October 27, 2011 at 8:27pm

Tiffany: No, because c=heat capacity  
October 27, 2011 at 8:27pm

Robert: Then how do you find the heat capacity?  
October 27, 2011 at 8:27pm

Ben: That was what your experiment was about  
October 27, 2011 at 8:28pm

Tiffany: By a/m  
October 27, 2011 at 8:30pm

Robert: What, then, is a=?  
October 27, 2011 at 8:30pm

Tiffany: In your report you created a graph. You can find a in the graph which is the gradient :-)  
October 27, 2011 at 8:18pm

Apart from these discussions where students receive answers from their fellow students, they also share notes and assignment work with each other in the groups without any preceding requests from fellow students.

The academic posts related to subject matter demonstrate that Facebook plays a role as a forum for peer-to-peer learning. Students help each other, and some students take on the role of teachers by helping their peers understand topics and
concepts. In that sense there are both examples of students joining forces to collaboratively solve problems and examples of peer-tutoring, where some students will help others. There are many examples of student communication late in the evening, when students are sitting at home doing their homework. Instead of potentially having to give up, students can receive help from fellow students at the very moment they encounter difficulties with their assignments.

6.4. Study technique

There are many examples of students asking each other questions related to study technique. Similar to the subject matter category, some of the posts within this category consist of questions with brief answers that solve the problem for the student. Examples of such questions include: “Do you write a problem statement, or do you just use the list we were given?” and “Reference list? Should we include that?” Again, within this category there are also examples of questions that lead to discussions, often but not always resulting in an answer:

George: It is important to write page number from the book when you are making footnotes?
May 1, 2013 at 11:48pm

Doris: Yes, I think so. If you are thinking “I don’t remember that”, you can just search for the words in the book, and you will quickly find the right page :) 
May 1, 2013 at 11:50pm

George: True, so it should just read for instance Sociology ABC, page 115-116, no authors, etc.? :-)
May 1, 2013 at 11:52pm

Doris: No, I believe that authors should be placed at the end under references :-)


These academic posts related to study technique also demonstrate that students utilise Facebook groups for peer-to-peer learning. Similar to posts related to subject matter these examples show that students provide solutions for each other and explain concepts and methods - and, again, often late in the evening the day before a deadline.

6.5. Practical issues

This category covers posts related to practical, administrative and logistical issues surrounding school work. Students do to a large extent use the Facebook groups to notify each other on cancellations and changes in their homework. These posts are statements to inform and do not require any replies, for instance: “Danish is cancelled” or “Biology is moved to Thursday”. Also students often ask each other about practical issues related to homework, including: “Where is the material for tomorrow’s lesson in classical civilisation located?” and “Where should we hand in the math assignment?”. Finally, students ask each other questions related to use of technology. For instance “Can anyone tell me how to insert footnotes in Word?” and “How do I get Maple to calculate angles between vectors?”.

This final category provides examples that Facebook plays a role as a forum for notifications, reminders, and again for peer-to-peer learning. Although many of the questions are simple and have straightforward answers, the answers could potentially be very important for the students asking the questions. In some cases, it is likely that the students would not be able to continue their homework, had they not received an answer to their question.


7. Conclusion

The article concludes that use of Learning Management Systems and Facebook should not necessarily exclude or substitute one another. The empirical study shows that they play very different roles for students. Whereas LMSs are seen by students primarily as institutional systems of the teacher, Facebook has an educational potential to be used by students for peer-to-peer learning in groups, in which teachers are not members. The results of the questionnaire study show that institutional LMSs are primarily used for teacher-student communication, and only to a small extent for student-student communication. In opposition to this, social media are rarely used for teacher-student communication, and a large percentage of students say that they use social media (primarily Facebook) to help each other with schoolwork.

The content analysis of 5 student Facebook groups shows that the groups play a role for students’ communication related to both social and academic issues. Student communication balances and shifts between institutional and non-institutional, and students act both as “students” and as “individuals” within the Facebook groups in the sense that they, on one hand, communicate on school work and actually do school work within the groups, whereas the groups on the other hand are also forums for topics related to the life outside school. The empirical study shows that there is an educational potential of student-managed Facebook groups as forums for peer-to-peer learning; i.e. students ask questions regarding homework and assignments, they share the correct results, they engage in discussions, and they explain concepts. The study shows that a Facebook group without participation from teachers can be an important forum for receiving help from peers in the very process of doing homework and working on assignments.
The research results suggest that educators should not try to replace student Facebook groups with a Learning Management System. Rather, the conclusion would be for educators to encourage students' use of Facebook groups for peer-to-peer communication.

Acknowledgements

The questionnaire study and the interviews of the presented research were conducted by a research group consisting of Christian Winther Bech, Hans-Peter Degn, Claus Gregersen, Helle Mathiasen, Mette Brinch Thomsen and the author.

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**Tables**

Table 1. Number of days, students, posts and replies in the 5 Facebook groups

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**Figures**

Figure 1. Teachers’ use of institutional LMSs to communicate with students

Figure 2. Teachers’ use of social media to communicate with students

Figure 3. Students’ use of institutional LMS to communicate with teachers regarding homework and assignments

Figure 4. Students’ use of social media to communicate with teachers regarding homework and assignments

Figure 5. Students’ use of institutional LMSs to help or receive help from fellow students regarding homework and assignments

Figure 6. Students’ use of social media to help or receive help from fellow students regarding homework and assignments