FACEBOOK VS. MOODLE: WHAT DO STUDENTS REALLY THINK?

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Abstract

In order to evaluate the educational benefits of Facebook, which plays an increasingly important role in students' social life as well as their academic life, and to compare it with Moodle, we surveyed students on their attitudes toward Facebook and Moodle as productive online tools for teaching and learning. An analysis of the results was carried out using the SPSS software package. The results of our study provide insight on the question of whether using Facebook as an educational tool is more effective than using Moodle and how it affects their everyday learning activities.

Introduction

The emergence and growth of commercial social networking sites such as Facebook, Friendster, LinkedIn, LiveJournal, and MySpace has been extensive and widespread (Boyd & Ellison, 2007). Given the rising popularity of both Moodle and Facebook, it seems logical to merge these two popular tools with the goal of improving online teaching and learning. Further, since students facilitate the sharing of information, personal and otherwise, the technologies used in social networking sites aid discussion and create intimacy among online students, as they have the ability to connect and build community in a socially and educationally constructed network. See Table 1 for a comparison of typical social networking sites and traditional course management systems

Table 1

Comparison of Social Networking Site and Course Management System Tools

Tools	Social networking site	Course management system
Forum	X	X
Blog	X	X
Media Sharing	X	
Messaging	X	X
Wiki		X
RSS	X	
Chat	X	X
Calendar	X	X
Tagging	X	
Own Brand & Visual Design	X	
Realtime Activity Stream	X	
Groups	X	
Friends	X	
Profile Pages	X	
File sharing		X

Source: Brady et al., 2010

In contrast to social networking sites, course management systems, such as Moodle, tend to be very focused and lack the personal touch and networking capacity that social networking sites offer (Brady, Holcomb, & Smith, 2010). Social networking sites can actively encourage online community building, extending learning beyond the boundaries of the classroom (Smith, 2009).

In order to evaluate the still unexplored educational benefits of a social networking site (Facebook), especially in higher education and to compare it with Moodle, we surveyed students enrolled in an environmental education course on their attitudes toward Facebook and Moodle as productive online tools for teaching and learning among students of the University of Belgrade - Faculty of Organizational Science, Serbia. An analysis of the results was carried out using the SPSS software package. The results of our study answer the question whether using Facebook as an educational tool is more effective than using Moodle and how it affects their everyday learning activities.

Background

The tremendous improvements in information and communication technologies and increase in the use of Internet brought many opportunities to different fields and especially to distance learning (Aydin & Tirkes, 2010; Demirci, 2010). Over the last decade, institutions of higher education around the world have recognized distance learning as a viable alternative (or supplement) to traditional, classroom instruction (Larreamendy-Joerns & Leinhardt, 2006). Distance learning uses network technology, various multimedia tools and software like video conferencing, collaboration, online discussion forums and authoring tools to create, deliver and to enhance learning capabilities through the Internet (Kamsin, 2005; Kudumovic, Kudumovic, Mesanovic, & Huremovic, 2010). It is a form of education that includes intensive application of distance learning electronic media and where the learning process is commonly separated in time and space. Unlike traditional (face-to-face) education where students can't take courses at any time, but at the time determined by educational organization, the flexibility of distance learning enables students to improve their knowledge at their own pace, at a place and time of their choice. They are able to review the information as often as they want, depending on their interest, needs and skill level (Kamsin, 2005). So, distance learning is especially useful for students who encounter difficulties in attending traditional classes, for reasons of distance, personal difficulties and responsibilities, work, family or social commitments (Hobl & Welzer, 2010).

There is an argument that traditional learning is more efficient than distance learning in some aspects. While web based approaches were seen as more innovative and enjoyable, the face-to-face tutorials were seen as more effective learning environments by the students (Sweeney & Ingram, 2011). According to (Kamsin, 2005), some professors and researchers believe that traditional instructions are able to convey the meaning of the lecturer than using distance learning. Traditional learning also gives more chance to students to meet their lecturer and discuss with them directly. A field experiment carried out by Hui, Hu, Clark, Tam, and Milton (2008) showed that technology-assisted learning adversely affects students' ability to obtain

knowledge that requires concrete experience, and that it is comparatively less effective in developing listening comprehension skills. The efficacy of traditional and distance learning was also compared by Solimeno, Mebane, Tomai and Francescato (2008). The results showed that distance learning can increase professional competences normally acquired only in small face-to-face educational settings, and that distance learning can be used to provide innovative educational opportunities to fit the particular needs of students who have time management problems in their learning strategies, with low anxiety, high problem solving efficacy.

In the distance learning process, open source software can be used in many different phases such as application software that performs learning content preparation and in a Learning Management System (LMS) which provides learning content presentation in a web-based environment as well as web server software, e.g. (APACHE). Due to the advantages of distance learning, schools and companies are adopting these new learning technologies and increasing their investments in them. OpenOffice, StarOffice, KDEOffice, and GNU Office software, which are all under open source content authoring tools, are also among the most widely used content preparation tools (Isljamovic, Petrovic & Jeremic, 2011).

Using Facebook in Education

Despite the fact that Facebook was launched in 2004 as a Harvard-only social network site, it expanded to include other university students and professionals inside corporate networks, and eventually everyone who has access to the online world (Cassidy, 2006).

There is a fair amount of professional and popular interest in the effects of social media on college student development and success (Abramson, 2011; Kamenetz, 2011). The most popular social media website for college students is Facebook, and research shows that anywhere between 85 and 99% of college students use Facebook (Hargittai, 2008; Jones & Fox, 2009; Matney & Borland, 2009). The most recent data, collected by the EDUCAUSE Center for Applied Research (ECAR) from a sample of 36,950 students from 126 U.S. universities and one Canadian university, showed that of the 90% of students who use social networking websites, 97% said they used Facebook. This 97% reported actively engaging on the site daily (Smith & Caruso, 2010). Facebook is being considered as an educational tool because of its beneficial qualities such as enabling peer feedback, goodness of fit with social context, and interaction tools (Mason, 2006).

Using Moodle in Education

Probably the most commonly used platform for making online academic courses is Moodle. It is a software package specially designed to help lecturers and professors create online courses. These systems are usually called distance learning or virtual learning (Desnica, Letic, & Navalusic, 2010; Kudumovic, Kudumovic, Mesanovic, & Huremovic, 2010). Combining this system with the traditional classroom teaching creates a blended learning environment, which has proved quite successful in many cases. Moodle is"open source" software, which essentially means that it can be freely

downloaded from the Internet, used, modified, and even distributed (under a GNU license). Moodle is easily run in UNIX, Linux, Windows, MAC OS X, Netware or any other system that supports PHP. All of its data is recorded in a single database: MySQL and PostgreSQL are best for Moodle; however, Oracle, Access, Interbase and ODBC can be used as well.

As always, university education is strongly influenced by new technology. The impact of the learning management systems (LMS) is particularly significant for science and engineering studies where they are but a particular case of a set of software tools applied in these areas. In general, LMS provide web-based interfaces that support a wide range of activities. These include forums, content resources, questionnaires, chats, assignments, and so on, which are generally sufficient for setting up standard courses. LMS can also integrate other tools of great interest when teaching an engineering course, such as in the automatic checking and verification of a student's lab work. A Moodle basic organizational unit is the course, which is accessed through a webpage. A course is organized into sections that may correspond to topics or weeks, appearing in the middle column of the page. It is possible to include different resources and activities in all sections. The last are to be assigned as home or class work to be further developed by the students. Users are another essential Moodle object: they can enroll into different courses as administrators, teachers or students. Each role is defined by its capabilities in a certain context, meaning that they have set of privileges when performing certain actions (Isljamovic et al., 2011).

Methodology - Research Context

The course selected for this research is Environmental Quality System, which is an obligatory course in the last year of undergraduate studies. The course classes consisted of two hours of lectures and two hours of exercises each week for a 14-week semester. The course program is based on a strong pedagogical methodology, requiring participants to turn their knowledge into appropriate actions and into behavior change (Petrovic, 2010). Facebook is considered as an educational tool because of its beneficial qualities such as enabling peer feedback, goodness of fit with social context, and interaction tools (Mason, 2006). Hence, it can easily be deduced that it can be a useful educational tool especially by providing active participation and collaboration (Mazman & Usluel, 2010).

On the selected course students were encouraged to be members of a Facebook group dedicated to the course. Having in mind that most of the students are online, this enables students to get news about the course momentarily: course syllabus, a study guide containing key concepts, activities and references to readings; the reading material for the next class; useful links, the information on guest lecturers, dates for turning in their homework, assignments, upcoming events, information about the exam and samples of work outside of the classroom. Students use Facebook to contact each other about class assignments or examinations as well as to collaborate on assignments and team projects in an online environment. All of this enhances the students' learning experiences with peers and educators.

Further on in the selected course we used Moodle in combination with Facebook as a Learning Management System, which helps students to plan their learning processes, and to work together through the exchange of information and knowledge with educators. Among the main features of e-learning platforms we can refer to the flexibility, accessibility, focusing on the student, interactivity and enhancement of the student. In this way, this course has the advantage of providing the content for students faster than the other conventional methods in distance education. In addition, the communication resources of Facebook make the communication between the teacher and the student easier and more efficient, when compared with other traditional methods.

Participants and Design

Research was performed on the students attending the winter semester of the 2012/2013 academic year. After students successfully completed the course and were graded, they took part in a survey. The survey was conducted at the University of Belgrade - Faculty of Organizational Sciences. In the survey 40 students participated (21 females and 19 males). Students completed the survey and the results for each student were calculated.

Instruments

In order to evaluate results of the survey, we used statistical software package SPSS 20. The Kolmogorov-Smirnov test has been used to determine whether the variables were distributed normally. Comparing two independent scale variables has been done by parametric t-test. Relationship between two categorical variables has been explored by chi-square test, Yates continuity correction and likelihood ratio correction, while strength of association between variables was evaluated with Cramer's V. Correlation, between two scale variables was done by parametric Pearson correlation, while correlation between two nominal variables was evaluated with non-parametric Spearman's rho correlation. A p value is used to indicate if the differences between two particular groups that were in this research are statistically significant (where $p<0.05$ is considered statistically significant at the 95% confidence level).

Results

Students were asked to provide answers on 30 closed-type questions. The first four questions were general and the fifth was in relation to having a Facebook profile. Students who did not have a Facebook account were not taken into consideration for further analysis (10%).

Our study has shown that there wasn't a statistically significant difference in answers between the genders.

The difference between the average marks for Moodle and Facebook based on the answers given by students on our 10 questions are shown in Table 2, which follows.

Table 2

Difference Between Average Marks for Moodle and Facebook

Question	Moodle (mean ± STD)	Facebook (mean ± STD)	p-value
Easy to use	4.00 ± 1.051	4.28 ± 1.099	p>0.05
Distracting from learning	1.28 ± 0.647	3.18 ± 1.355	p<0.01**
Model for performing communication	3.72 ± 1.050	3.79 ± 1.341	p>0.05
Information spreading between students	3.45 ± 1.155	4.37 ± 0.913	p<0.01**
Data search	3.59 ± 1.141	3.82 ± 1.121	p>0.05
Learning environment	3. 62 ± 1.138	3.18 ± 1.211	p>0.05
Good GUI	3.28 ± 1.146	3.72 ± 1.075	p>0.05
Stability of system	3.95 ± 0.999	3.97 ± 1.267	p>0.05
I post only truthful info	3.87 ± 1.189	3.79 ± 1.044	p>0.05
My personal data is safe	4.13 ± 1.174	2.51 ± 1.254	p<0.01**

Our research has shown a statistically significant difference in answers on 3 specific questions (the students gave marks on a rating scale from 1 to 5 based on the truthfulness of the statement):

- Moodle/Facebook is distracting you from learning.
- Moodle/Facebook is spreading information between students in a better and quicker way.
- Moodle/Facebook keeps my personal data safe.

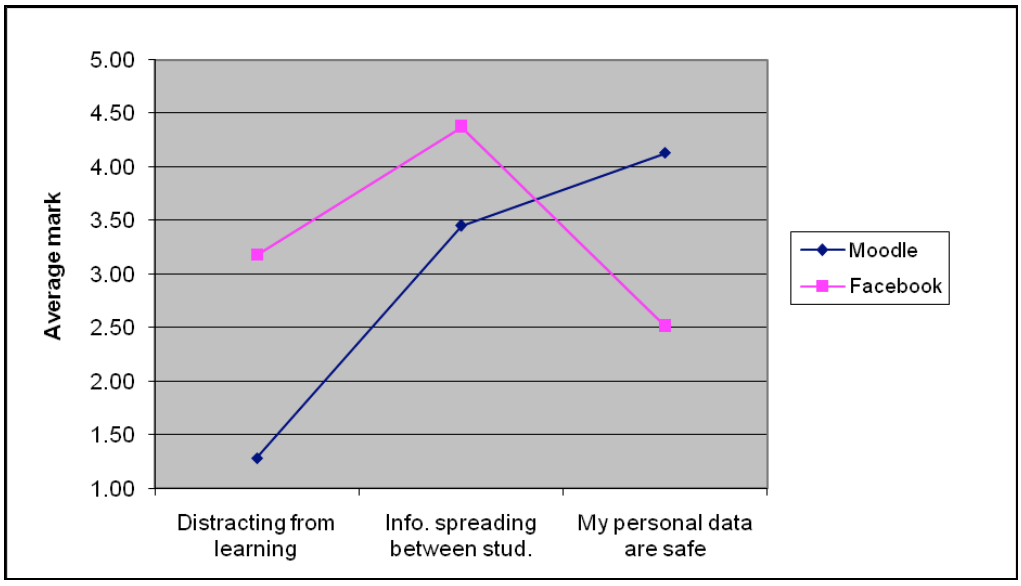

Figure 1. Comparative marks for variables with statistically significant differences for Moodle and Facebook.

Average marks for variables with statistically significant difference between Moodle and Facebook go as follows:

- When asked how much do these platforms distract them from learning students gave an average mark of 3.18 for Facebook while Moodle got an average mark of 1.28 (p<0,01).

- When asked to grade how often do they use these platforms for exchanging the information about the course among themselves and where do they find it to be more convenient, Facebook got an average mark of 4.37 while for Moodle that average is 3.45 ($p<0,01$).
- When asked to grade the safety of their personal data Moodle was graded with an average mark of 4.13 while Facebook got the average of 2.51 ($p<0,01$).

Discussion

The obtained results on the first question speak in favor that Moodle is better for learning, given the fact that Facebook, as a social network, is not primarily intended for educational purposes, but for social interaction and as a such distracts students from learning, while Moodle was originally created just for studying, although it may contain additional utilities and content.

A significant statistical difference was spotted in grading the safety of personal data on Facebook and Moodle. This is probably because the students feel that their data on Facebook is available at all time to their Facebook community, while the data that they choose to show on Moodle has limited availability, it is only shared among the selected few that are their colleagues with whom they attended the course as well as the educator.

Also, our research suggests that students find Facebook and Moodle almost equally easy to use, which is surprising regarding that they use Facebook more often, and for longer time than they use Moodle, and regarding that they are more familiar with the environment that Facebook provides for them. In the case of Facebook, the majority of students had their accounts for longer than three years, while Moodle is relatively new to them, and almost all of them made their accounts at the start of the semester specifically for this course. Facebook got an average mark of 4.28 and Moodle got 4.00.

Conclusion

This study is one of the first attempts of succeeding in integrating Facebook and Moodle in education of students. The results of the polls we conducted at the end of the course already showed a great progress and encouraged us and other researchers to continue exploring this area.

The most important results we found during our research were the conclusions obtained from the answer to the second question that proved that there isn't just one perfect solution: Facebook or Moodle. We suggest the use of both: Facebook allows students to access information on the go, quickly, at the same time giving them the option of sharing information regarding the course with their peers, while Moodle is providing them with educational material in an non-distracting way and making them feel safer with their personal data. Facebook has proven to be a fun, interactive medium for studying. It gives the students a perfect nurturing environment for sharing data, getting fresh information from the educators "hot of the keyboard." The most important thing about Facebook as an educational tool is peer-to-peer feedback. Students feel safe and comfortable communicating with their colleagues in a

relaxed atmosphere. On the other hand, students feel that Moodle is better for studying, they are sure that the information they are getting there has been checked and proven true by the educator, and they know that they are safe there. But as learning isn't anything without practicing what has been learned, Moodle wouldn't be as successful without the students sharing information on Facebook. With all of this being said, there isn't just one perfect solution. The answer is a symbiosis between Facebook, Moodle and traditional classroom learning. And this is what students really think.

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