FACEBOOK - A SOCIAL NETWORKING TOOL FOR EDUCATIONAL PURPOSES: DEVELOPING SPECIAL INTEREST GROUPS

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Abstract

The purpose of this research was to examine and evaluate the role, usefulness and value of social networking as perceived by higher education students. It also attempted to examine the educational role of social networking by developing Special Interest Groups within a social networking site (in this case Facebook). Specifically, it describes and presents an evaluation of the use of three Facebook Interest Groups: MIS – Management Information Systems, Science, and Engineering, by the faculty and students of five Universities in Cyprus. The preliminary analysis of the results highlights the promising and important role and value of such groups in both social and academic life. Finally, the paper discusses "best practice" policies for Facebook integration for educational purposes.

Introduction

Projects and services of the Web 2.0 family are an important part of our daily life activities, with social networking sites enrolling millions of people, enabling information and resource sharing, communication, and collaboration (Eteokleous & Ktoridou, 2011). Students are greatly immersed in Web 2.0 technologies: social network sites, blogs, wikis, twitter, podcasts, virtual worlds, video and photo sharing, with the Internet playing major role in both their social and academic lives. Educators turn to Web 2.0 tools, drawing upon their ability to assist in creating, collaborating on and sharing content, but most importantly offering students the advanced technology they really need. Crook and Harrison (2008) state that little empirical research has been conducted on the value of Web 2.0 in education. Numerous research studies have begun to examine social network sites. However, few of them have specifically addressed its role in pedagogy (Charnigo & Barnett-Ellis, 2007; Mathews, 2006; Mazer et al., 2007; Selwyn, 2007; Towner & VanHorn, 2007).

Main Aim

The purpose of this research is to examine and evaluate the role, usefulness and value of social networking as perceived by higher education students. It also tries to examine the educational role of social networking by developing Special Interest Groups within a social networking site (in this case Facebook). Specifically, it describes and presents an evaluation of the use of three Facebook Interest Groups: 1) MIS – Management Information Systems, 2) Science, and 3) Engineering, by the faculty and students of five Universities in Cyprus: University of Cyprus, Technical University of Cyprus, University of Nicosia, European University, and Frederick University.

Theoretical Framework

Web 1.0 and 2.0

In Web 1.0, users were passive "consumers" of information and characterized as "the public" without having any contribution or active involvement. Web 1.0 users were reading, receiving and researching (the 3 Rs) (Ala-Mutka et al., 2009; Hargadon, 2009; Richardson, 2009). The technological advancement in information technology and telecommunications resulted in the development of Web 2.0 and created the appropriate framework for user participation. Specifically, a site's primary content is contributed by its users, where the traditional one-way communication is transformed into a two-way communication and process of information. The users are contributing, collaborating, and creating (the 3C's) (Ala-Mutka et al., 2009; Hargadon, 2009; Richardson, 2009). The term, Web 2.0 is commonly associated with web applications which facilitate interactive information sharing, interoperability, user-centered design and collaboration on the Web. Examples of Web 2.0 include web-based communities, hosted services, web applications, social-networking sites, and video-sharing sites (Hargadon, 2009; Prensky, 2001; Richardson, 2009). With the advent of Web 2.0, the Internet has become truly interactive. The Web 2.0 tools (discussion forums, blogs, wikis, chat-rooms, electronic calendars, and documents) provide a realistic, visually compelling, and motivating interactive environment for developing the life skills and knowledge needed for today's globalized, high - tech environment (Ala-Mutka et al., 2009; Eteokleous, 2009; Hargadon, 2009; Richardson, 2009). Wikimedia, videos, blogging, forums and chats are excellent examples of how definitions, ideas, photographs, videos and voices can be shared over a powerful Web 2.0 Internet. The evolution from Web 1.0 to Web 2.0 has resulted in a more participatory and social culture of learning and content generation.

Social and Educational Networking

Millions of people use various social networks, such as Facebook, MySpace, Twitter, Delicious, Flickr, LinkedIn, and Live Journal. Discussion forums, blogs, wikis, chat-rooms, electronic calendars, social bookmarking and Google applications are some of the Web 2.0 tools employed within these social networks. Using these tools the users create profile pages and groups with common interests who socialize, upload pictures, video, music, comment on

events, and so forth. Additionally, the aforementioned tools support communication, interaction (Shirky, 2003), feedback by groups, the creation of social networks (Boyd-Franklin, 2003) and collaboration. As Liu et al. (2009) state, "They are examples of the emerging Web 2.0 technology that has the characteristics of being social, personalized, interactive, and participatory" (p. 2604). The concept of social networking is becoming even more popular, "invading" people's everyday lives, the workplace and academic settings. Additionally, Kord and Wolf-Wendel (2009) suggest that online social networking is part of youths' daily experiences influencing both academic and social life. Furthermore, youth perceive Web 2.0 tools and online social networking as important to their educational experience (Kord & Wolf-Wendel, 2009).

Given the rapid development of technology around the world, the application of Web 2.0 in education has been steadily increasing. Wheeler and Wheeler (2009) argue that "social websites are also significantly more interactive, with functionality to support collaborative working, voting and other forms of group engagement that have pedagogical potential. Within the social web, content can be generated, edited and published by users, and control of content is subjected to open, democratic processes" (p.1). Having in mind the opportunities provided through Web 2.0, and the changes in users' role, social networking can be transformed to educational networking (Hargadon, 2009). The Web 2.0 tools can be applied for teaching and learning purposes towards achieving educational objectives (Eteokleous & Pavlou, 2010). Various researchers (Ala-Mutka et al., 2009; Burnett et al., 2003; Hargadon, 2009; Richardson, 2009) argue that the new web dramatically changes the education of the 21st century, by altering the way in which students approach learning, the way in which teachers approach teaching and learning, the way in which interaction and communication among students and teachers occurs and the way in which teachers and students learn from each other (Hargadon, 2009). Specifically, Ioannou (2009) supports "that Web 2.0 technologies provide opportunities for the implementation of more effective collaborative learning environments for online learning" (p. 3389).

Moreover, Liu et al. (2009) investigated for a period of two years (2007-2009) various studies in order to identify the Web 2.0 technologies used in higher-education and to examine any research evidence showing how Web 2.0 technologies could enhance teaching and learning. The analysis demonstrated that five Web 2.0 technologies were the most commonly discussed in current literature: blogs, wikis, podcasts, social networks, and virtual environments. Many examples of Web 2.0 across disciplines and instructional strategies in higher education were identified. The majority of the papers focused on instructors' personal experiences and evaluated instructor and student preferences and perceptions for using Web 2.0 tools. Each study addressed one of the following aspects: affordances of Web 2.0 tools; tool design and usability issues; and identifying best practices for implementing the tools.

On the other hand, limited rigorous research exists as to whether Web 2.0 technologies could enhance teaching and learning. As of now there is lack of research evidence on how Web 2.0 technologies are used and whether they

can promote, enhance and support the teaching and learning process. Additionally, there is limited empirical research dedicated to online social networking and its educational benefits as well as Web 2.0 technology effectiveness. Consequently, more research needs to be conducted on how social networking can benefit students' educational experience (Ioannou, 2009; Liu et al, 2009; Kord & Wolf-Wendel, 2009). Both qualitative and quantitative investigations involving large and more diverse samples are needed (Kord & Wolf-Wendel, 2009).

Facebook and Education

"Facebook is a network that connects students with other students, indirectly creating a learning community - a vital component of student education" (Baker, 1999, p. 5). Facebook has quickly become the favorite social network site of higher education students and an integral part of the "behind the scenes" higher education experience (Selwyn, 2007). Since Facebook's launch in 2004, virtually all colleges in the United States (U.S.), with a continuous increase internationally, have incorporated their internal networks within the site. Arrington (2005) reports on the adoption rates of Facebook in universities and colleges: 85% of college students having a college network within Facebook have adopted it. Furthermore, according to Lenhart and Madden (2007) 48%-50% of teenagers are active social networking users. Facebook's numerous features such as email, bulletin boards, instant messaging, video and picture posting and applications download supplement serve the educational function of enabling communication, collaboration and sharing between students and faculty.

Research Methodology

The current study employed a mixed method approach where quantitative and qualitative data were collected (Creswell, 2003). Questionnaires were used to collect quantitative data and focus groups were organized for qualitative data collection. The study's target population consisted of students coming from five universities in Cyprus: University of Cyprus, Technical University of Cyprus, University of Nicosia, European University and Frederick University. Random sampling was used to distribute the questionnaires during Fall 2011. Specifically, 400 questionnaires were randomly given to students. The response rate was 58%, since 232 completed questionnaires were returned. The questionnaire consisted of two sections, Part A, which collected demographic information, and Part B, which obtained information on social networking usage. The latter collected information concerning access (the means used), frequency (years, hours and days), reasons for usage, kinds of activities performed, any memberships in interest groups and possible interest in participating in one or more of newly created MIS, Computer Science and Engineering interest groups.

The three aforementioned interest groups were created in Facebook with different target groups in mind. Specifically, a) the MIS interest group's target audience was MIS students as well as Management and Business students; b) the Computer Science interest group welcomed students from science, MIS, Computer Engineering, and any students interested in sciences; and c) the Computer Engineering interest group was open to students from electrical

engineering, telecom engineering, MIS and computer science students. Besides students, anyone (i.e. lecturers, practitioners) interested in joining the three special interest groups was welcomed to do so. The Interest groups were advertized through Facebook personal accounts and groups and other social networking sites, via email, and through advertising leaflets given out in all five universities. Anyone interested could participate, including professionals from industry with the goal to target students' interactions with experts in the field. The Interest Groups were to bring together people that have a common interest in a particular field, so they could mingle, share information and have discussions. Overall, 102 people participated in the three Interest groups. The majority of the participants were students (85%), however, 10% were professors representing several universities (not only the five universities listed) and 5% were practitioners related to the fields of the three special interest groups. Specifically, the Computer Science group had 70 members, the Management Information Systems group had 23 members, and the Computer Engineering group had 9 members. The Computer Science interest group had an enormous amount of posts from its members, in comparison to the MIS group that had 28 posts and the Computer Engineering group that had only 15 posts. The posts in the three special interests groups can be classified in three categories: (1) asking for help on lessons, assignments and exercises, and information on courses and assignments; (2) sharing and discussing news related to the field; and (3) information on various social and educational events organized at the five universities.

Three focus groups (one focus group for each special interest group) were organized after the interest groups were running for 3 months. Specifically, the focus group members were interviewed in December 2011. The students participating in each focus group were selected based on two criteria: their participation in and involvement in the interest group. A total of 20 students (ages 18 – 30) participated in the focus groups. Specifically, 12 students from the Computer Science interest group, 5 students from the MIS interest group and 3 students from the Computer Engineering interest group. On average, the duration of each group interview was between 1 to 1.5 hours. Open-ended questions were used to encourage students to share their opinions and experiences and freely express themselves. The goal was to obtain an in-depth examination of students' attitudes and perceptions relating to social networking sites as educational tools, as well as to the value and effectiveness of participating in online special interest groups.

The quantitative data collected from the questionnaires were analyzed using the SPSS statistical package software. Frequencies, percentages, means and standard deviations were calculated for each variable. The qualitative data collected from the focus groups were analyzed with the method of continuous comparison of data (Maykut & Morehouse, 1994).

Data Analysis

Quantitative Analysis

Demographics.
The vast majority of the participants were 18-23 years old (70%) (M=21.8; SD = 0.75). More than half of the participants were female (55.6%), 44.2% were male. Nationalities reported varied. The majority of the participants were European (87%), 5% were Asian, 4% were African and the remainder were from the U.S. Along the same lines, the students' academic specializations varied. The majority of the participants were Business and Education majors, 37% and 27%, accordingly respectively. The remainder of the participants reported the following majors: Engineering, Science, Social Sciences and Other. Participants' Internet experience was measured based on the years of Internet use. More than half of the participants reported using the Internet for 12-16 years, and 27% of the participants reported using the Internet for 6-11 years. Finally, the participants were asked to rate their Internet use frequency (on a scale from 1 to 4, where 1 = Never and 4 = Daily), where 87% of the participants mentioned indicated that they used the Internet multiple times per day (M = 3.85; SD = 0.457).

Online activities uses – Internet uses.
The participants were asked to report the frequency of various online activities on a scale from 1 to 4, where 1 = Never and 4 = Daily. Specifically, it was revealed that 65% of the participants checked their email accounts on a daily basis (M = 3.5; SD = 0.75); 50% of the participants used instant messaging daily and 23% used it more than 10 times per month (M = 3.23; SD = 0.93). Along the same lines, 42% read the news online daily and 29% read it more than 10 times per month, respectively (M = 3.08; SD = 0.955). Regarding the use of the Internet for conducting financial transactions, it seems that the students did not use it often, since only 20% reported using it more than 10 times per month, and 68% reported using it either one or two times per month and or never (Mean = 1.97; Std = 0.91). However, the students' responses regarding using the Internet to play games was evenly distributed (around 25%) among the four categories: every day, more than 10 times per month, one or two times per month, and never) (M = 2.4; SD = 1.09). Given their responses, it seems that they used the Internet as a method for shopping relatively often, since 20% of the participants used it more than 10 times per month, and 38% used it one or two time per month (M = 2.19; SD = 1.68). Additionally, the students were asked if they used the Internet to keep in touch with family, friends and colleagues. Less than half of the participants, 45.3%, use the Internet every day, and 24% use it more than 10 times per month, in order to keep in touch with family, friends and colleagues (M = 3.11; SD = 0.99). Along the same lines, half of the students reported participating in online communities with 33% participating every day and 24% participating more than 10 time per month (M = 2.74; SD = 1.13). Finally, the vast majority of the students mentioned using the Internet for study purposes, 41% every day and 39% more than 10 times per month (M = 3.15; SD = 0.87).

Profiles in social networking sites.
Participants were asked to report if they had profiles in various social networking sites and in which social networking sites. The vast majority of the students, 87%, reported having social networking accounts. As expected, the vast majority hold profiles on Facebook (82%) and MSN (64%). The rest of the social networks appeared to have lower scores. Specifically, 29% of the students had Google+ profiles, 21% had Twitter profiles, and 18% had Hi5 profiles. Finally, only 9% had LinkedIn profiles and 8% of the students had MySpace profiles.

Social Networking experience and the means to access social networking sites.
The student participants were asked to report how long they had been using the social networking sites. Less than half of the students, 43%, reported using the social networking sites for 3-4 years. Only 6% reported using it for 7 years. It can be suggested that students' social networking literacy is related to their age (the vast majority of the students are 18-23 years old). Students begin social networking in their teenage years. Additionally, the students were asked to state how many hours they used the social networking sites. It was found that 68% of the students use the social networking sites for 1-4 hours and 19% used the social networking sites for 5-8 hours.

In order to better understand how much participants used the social networking sites, as well as how often they felt the need to visit the sites, the students were asked to state how they accessed the social networking sites. Surprisingly, not all of them reported logging into their social networking accounts from their personal computers. Specifically, 60% reported accessing the social networking sites from their desktop computer and 77% from their laptops. Hypothesizing that each student has either desktop computers or a laptop, some of them visited their social networking sites profiles/ accounts using other means. Specifically, the other means used for social networking are the Smartphone (35%) and Tablet (6%).

Frequency of social networking site use.
The students were asked to indicate how frequently they used the various social network sites. The social networking sites can be grouped in 3 categories regarding the frequency of use (on a scale from 1 to 5, where 1 = never and 5 = nearly always). The most use, as expected, was Facebook ($M = 4.4$; $SD = 1.08$) and MSN ($M = 3.2$; $SD = 1.42$). Google+ ($M = 2.6$; $SD = 1.66$) and Twitter ($M = 1.93$; $SD = 1.42$) appeared to have the second most frequent use. Finally, the least frequent use appeared to be MySpace ($M = 1.47$; $SD = 1.05$) and Hi5 ($M=1.36$; $SD = 0.83$).

Main reasons for using social networking sites.
It is important to investigate the main reasons for using the social networking sites. Along the same lines, the main reason for use can be grouped into three categories of importance. More specifically, students were asked to rate the importance of each use on a scale from 1 to 4, where 1 = Not at all and 4 = Very. The most important reason for using the sites was to get in contact with friends, family and colleagues ($M = 3.6$; $SD = 0.75$). Another group of reasons

were rated, s either “Not very important” or “Important”. These reasons included: “Local events” (M = 2.67; SD = 0.92); “Education” (M = 2.75; SD = 1.01); Entertainment (M = 2.92; SD = 1.08), “Stay up to date” (M = 2.81; SD = 0.91); “Share video/pictures” (M = 2.67; SD = 0.91); and “Share your experiences” (M = 2.55; SD = 0.99). Three variables can be grouped into the last category of the lowest importance: “Make new friends” (M = 2.39; SD = 0.93); and “Planning Events” (M = 2.4; SD = 0.97), and the least important reason was to Date (Mean = 1.8; Std = 0.93).

Social networking sites uses – Differentiation among sites.
It is also extremely valuable to identify student uses among the various social networking sites and specifically identify how they differentiate among the various social networks. Regarding the two social networks that were used the most, Facebook and MSN, students reported the following uses: Online communities (55%), News Reading (41%), Photo and File Sharing (57%), Status up date (44.4%), Games (38%), and Messaging (65%). Twitter was mainly used for New Reading (10.3%) and Status up date (7.3%). Along the same lines Google+ was mainly used for News Reading (14.2%) and for Messaging (11.2%). The least frequently used social networking sites, MySpace and Hi 5, had also very low scores in the aforementioned categories of uses (less than 5%). Finally, LinkedIn appeared to have very low percentages for all of the possible uses. This was expected since this particular website is mainly for job related purposes and students might not have a great need to use this site.

Members in interest groups and interest groups uses.
The students were asked to report if they were members of any interest groups within the social networking sites. The majority of the students reported being members of Entertainment groups (35.3%). Interestingly, 32.8% (the second biggest percentage) of the students reported being members of Educational Groups, Sport (27.6%), Fashion (25%), and Ethnical Groups (5.2%) were also reported by the students. Finally, 6% of the students reported not being members of any special groups. It was also extremely useful to examine how university students used the aforementioned. They mainly use the groups to “Keep up with topics of interest” (52%), “Exchange information on educational issues related to my field” (27.2%), and “Meet new people with similar interests” (23.3%). Finally, students were asked to report if they would be interested in participating in a number of Interest groups. The students gave the following scores: MIS (Management Information Systems) (17.2%), Computer Engineering (11.2%) and Computer Science (14.2%).

Qualitative Analysis

Focus Groups.
An initial general comment derived from all focus group members was students’ positive attitudes towards exploiting Facebook as an educational tool. Overall, they admitted having a positive learning experience. The students confirmed that they could never have imagined that Facebook could assist them in their educational collaborations. They were hesitant in participating in such interest groups, since initially they did not understand the

value of such participation. In addition, students that were more active members of the groups stated that they found solutions for various university-related problems. One student with a science specialization commented: "I have been struggling with this programming for weeks now not being able to solve the problem. I have requested assistance within the interest group and within two days my problem was solved." Further, many other students had similar issues and through interest groups they came up with solutions. The importance of the above can be interpreted in two ways. First of all, students greatly benefited from their participation in the focus groups since they could find solutions to assigned problems. They supported that since they use Facebook for socializing purposes why not taking advantage to use it for educational purposes, taking its use to a different context, moving beyond the strictly social aspect of the site.

Some students that did not have Facebook accounts, expressed feeling pressured to join so that they could participate in, contribute to and benefit from the special interest groups. Specifically, 5 out of the 20 students participating in the focus groups either did not have a Facebook profile or had not previously participated in any interest groups. Interestingly, one student reported: "I had no Facebook profile, but after discussing with my classmates I have realized its' real educational benefits, created a profile and got involved in an interest group."

Students also described challenges while participating in the interest groups. Two significant comments coming from two students were, "I have posted an interesting video on social networking security violations with no responses;" and, "I have been receiving messages irrelevant to the topic of my interest group."

Discussion – Conclusion

Overall, students used the Internet relatively frequently for various purposes in their daily activities. It is important to note that the students revealed that they use the Internet not only for social purposes, but for study purposes as well as for participating in online communities. Additionally, students can be considered as social networking literate having in mind their age in relation to the years of use and frequency of social networking use (the vast majority of the students are 18-23 years old, they used social networking sites for 3-4 years and 1-4 hours per day). Along the same lines, the students reported using Facebook relatively often. It seems that the students feel the need to get together, collaborate, have discussions, and exchange information with others who share similar interests. Consequently, it can be supported that the creation of special interest groups for educational purposes can be further promoted. The students seem to experience and realize the educational value of special interest groups. Almost all students agreed that they could benefit from the creation of interest groups for other courses. A common statement on this was, "Yes, interest groups also for other courses will benefit not only our learning but also the creation of a broad range of online learning communities."

Another important finding was that almost the same percentage of students who reported using social networking sites (87%), reported having Facebook accounts (82%). Consequently, it can be supported that those that use social networking sites have Facebook accounts. Specifically, among university students Facebook, and in general, the social networking sites have became a new way of living, communicating, collaborating, and working. They have developed a virtual life that functions in parallel to their real life (reality). It can also be suggested that the virtual life developed complements real life and in some cases it many totally replace it. A great part of a student's life "is online." The virtual life of students is a great part of their daily activities, such that they feel the need to log into their social network accounts "on the go," from their smart phones and tablets, and not only from their desktop computers and/or laptops. Consequently, why not have part of their education experienced through social networking sites?

Based on the analysis, it can also be concluded that social networking sites are as important as Internet use, since the main reasons for using the social networking sites are very similar to the reasons for Internet use. Is it too risky to hypothesize that in some cases for higher education students, Internet use means logging in to their social networking accounts? It was also observed that the students rated "Education" as a relatively important reason for visiting the social networking sites. This shows that students realize the potential educational value of the social networking sites, giving the positive message that it is possible to educationally exploit social networking sites. Finally, based on the analysis a large percentage of the students reported being members of Educational Groups in social networking sites. It is important to note that the reasons given for participating in the Educational groups included the following: "Keep up with topics of interest," "Exchange information on educational issues related to my field," and "Meet new people with similar interests."

In summary, the current paper addresses significant issues regarding the integration of social networking sites in educational practice and provides an example of how social networking is transformed to educational networking as well as how it facilitates and enhances teaching and learning. It can be suggested that students are positive towards the use of social networking sites for educational purposes as well as the development of special Interest groups for educational purposes. Social networking sites increase the interaction for both teacher-student and student-student communication. Lecturers are continuously connected to their students. They can: inform and update them about assignments, and upcoming events; provide useful links, and samples of work outside of the classroom; share educational material, and even provide some general information. In addition, social networking sites can help students stay in touch with their classmates; they can help each other with their class assignments or examinations, address any questions and concerns as well as collaborate on assignments and group projects. The frequent use of social networking sites by students and the sites' unique collaborative features (Web 2.0 tools) allows for the development of beneficial educational contexts and is pedagogically promising to both educators and students. The social networking environment engages students in a new and innovative way.

Social networks can enhance communication, collaboration and sharing; it can enhance student motivation, effective learning, and the classroom climate by offering students opportunities to come "virtually closer" to their educators and classmates.

The current study begins to fill the gap that exists in the literature on whether social networking sites can promote, enhance and support the teaching and learning process. The study demonstrated the educational benefits of social networking sites by using them for either educational purposes and/or creating special educational interest groups.

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