The impact of social networks in the educational environment: How technology can transform education using Facebook as an interactive learning resource

ABSTRACT

The Internet has been the basis for the development in all communication media, putting communication under a new status. Recently, it is considered as a means of communication and global socialization which changed the way of communication between people and formed internationally a new order. Its tremendous success is due to search abilities given through its search engines, mainly to communication capabilities provided and still provide to users. Contemporary communication capabilities provided help people living thousands of kilometers away to communicate, exchange views and generally have verbal and visual communication, something that was not possible by the oldest means of communication with the similar intensity and ease. Social networking services are now regularly used by millions of people, offering users a place where they can keep their relationships, share information and build new relationships through existing friends. Furthermore, social networking sites can and provide today many promising, both formal and informal ways of learning which are complementary of the classical educational process. Institutions of higher education around the world began to focus on Facebook’s benefits for educational purposes. Our small scale research resulted in tools of social networking that can support educational activities as they contribute to the interaction, synergy, active cooperation and information distribution aiming at the development of judgmental thinking. It is pointed today that social networking facilitates learning due to their active role. This paper presents the role of internet and mainly that of social media in education, referring to the broadening of usefulness and utilization that Facebook can provide in the educational field. Education and everyone involving in it must take into account all the new data and prospects of differentiation in the teaching-learning process while paying attention to the difficulties and the obstacles that may be encountered.

Keywords: Social media tools, educational technology, Facebook in higher education, learning procedure.

JEL: I23, O33.
success is due to search abilities that it gives through search engines, mainly to communication capabilities provided and still provide to its users. To date, the number of Internet users that have Internet access has risen to 43.4% of the world’s population or roughly 3.1 billion persons (Internetworldstats, 2015). This number shows that there has been a substantial growth in Internet usage each year which has led to the extensive use of Internet applications (for example, e-mail and computer conferencing) for the exchange of information and knowledge in education (Kirkwood, 2009).

One of the biggest powerful, modern and social networking tools is Facebook. With over one billion people accessing it globally, it continues to flourish as a social networking media and representing an important aspect of the student life style (Matney and Borland, 2009; Jones and Fox, 2009). According to the Higher Education Research Institute (2007), 94% of university freshmen use at least one form of social networking media. Widespread use of Facebook by students is well documented. It has become very popular among students with utilization rates above 90% in most campuses (Lampe et al., 2006; Stutzman, 2006). It has been criticized like all the other social networks and accused of security, protection of privacy and the political views of its founders. It is classified as web 2.0 tools and it is almost synonymous with teenagers’ daily routine in the both the United States and Europe.

The teaching approach of all subjects with the use of IT is now considered necessary with the involvement of both the student and the teacher. It is also characteristic of the fact that the digital services of an educational organization are now part of one of the main characteristics of its quality (Lengnich, 1996). The teacher will be the facilitator and the partner to the student in order for the latter to utilize the computer and generally the information technology to its advantage. It is essential therefore to use the computer in the teaching process.

The daily use of social networks all over the world from students is a new reality that concerns the educational community and is now under research whether social networks should be used in the learning process. Social networking sites can provide many promising, both formal and informal ways of learning complementary to classical educational process. Surveys have shown that social networking tools can support educational activities, as they contribute to the interaction, co-operation, active involvement and sharing of resources and information, as well as the development of critical thinking. Social networks facilitate learning (Mazman and Usluel, 2010) due to their active role.

Thus, social media can be a powerful tool in academics hands which may facilitate learning activities at the university and offer quality to education. More and more educational institutions use social networks for academic purposes. This paper presents the role of social media in education and aims to examine the influence of Facebook on students’ learning educational process revealing the various costs and benefits that students have in using Facebook. Facebook was not developed to be a supportive learning environment but it has a potential to be. It will help us to understand if this popular platform fits into students’ intense lives without harming their learning process and if it can improve student’s academic performance. Instructors in higher education should consider using Facebook as an instructional technology that creates a positive learning community.

INTERNET AND SOCIAL NETWORKS

The Internet has been the basis for development in all communication media that have put the communication under a new order. As such, we have to make our first approach with what internet is and how it works in communication. The first step that made the Internet a powerful communication tool started in March, 1972 by Ray Tomlinson, who created the first e-mail service program on behalf of APRANET (Norman, 2005). In the same year, for the first time, it used the symbol @, which refers to the main component of an electronic address. Lawrence Roberts in the same year developed the first e-mail management program, RD, which enabled users to collect incoming e-mails to promote, classify and provide the possibility of their response (Morin, 2006).

The program, UUCP (Unix-to-Unix Copy) provided to e-mails development and also for their further improvement of its use as a communication tool. Based on the same operation in 1979, two students at Duke University created a more direct and effective means of communication which enabled the sending of e-mails and newsletters. This system for the first time allowed the creation of forums and newsgroups, which defined the communication process and helped in the interdependence between cultures, people and institutions.

The USENET lays the foundation for interactive communication, which has been and is still the future connecting link in common interest groups whose members had and now even more, have the ability not only to participate actively, regardless of where they are but also to do so while preserving their anonymity if they so wished (Abbate, 2000).

Beyond the USENET, there were other programs like Bitnet, FidoNet and JuNet which enabled exchange of e-mails while other actions such as information, training and entertainment developed. These technological instruments spread internet technology among all the social groups.

By the 1980 mid-decade, the field of providing e-mail services dynamically entered the private agents, mainly companies in the telecommunications or computer technology industry (MCI Mail, AT and T Mail, Telenet’s Telemail and DEC’s Easy Link, etc) further simplifying
electronic e-mail exchange.

That same year, the conference systems known as "online services" were developed. A conference system was more akin to an online page where the registered user had the ability to post messages, "download" files, exchange e-mails and participate in discussions in real time.

In their original form, conference systems did not include their benefits package in the internet access, but provided free operating systems, online shopping and the ability to communicate and discuss with other registered users.

This specific web communication mode which has now been replaced by more recent tools is considered to have been the basis for developing all the communication tools which have today put on a new basis of communication (Norman, 2005).

USE AND ROLE OF SOCIAL NETWORKS

Social networks are based on the development of Web 2.0. The Web 2.0 is the second generation of Internet that enables users to access published texts, communicate with other users and search online for specific themes. Social networks are an online community where a personal network of friends, colleagues or people with common interests can be created.

Young people are more easily adapted to new technologies that often confuse the boundaries between online activities and activities in the real world. Presently, the number of visitors in social networks has increased and that makes them continuously to provide more and more services.

The ways in which we connect with social network services expand and they are gaming applications or mobile applications that interact with web applications and in which there is great development. In terms of social networks, it can be said that these couples maintain their relationships, for example, partnerships and friendships that ties a bond between two people based on one or more links (Haythornthwaite, 1996).

Social networking services can be broadly defined as social Internet sites that are accessible by mobile phones in order to facilitate communication, collaboration and the content shared by people in contact networks. A social network service focuses on creating online communities, people who share interests and activities, or those interested in exploring others people interests and activities.

Most social services are on the Internet and provide many different services for users, giving them chiefly the ability to interact through e-mail and by instant messaging services. Social networking helps in creating new ways to transfer and share information by millions of people who regularly use social networking sites.

Hempell (2004) defined social networks as communication through computer connecting people or organizations or a group of people linked by relationships such as family, friendship or professional ties.

Boyd (2003) stated that: "People tend naturally to use software as a tool to promote their personal interests and interact socially; therefore, almost any software program could be considered as social networking" (Boyd and Potter, 2003).

In other words, a social network service which essentially is the same social network is a social structure made up of bonds (which are composed of individuals or organizations) such as values, visions, ideas, financial transactions, friendships, sex, dislikes or commercial transactions or line contacts that are interrelated.

Social networking services offer users a place where they can:

1) Maintain their relationships;
2) Share information;
3) Build new relationships through existing friends.

Social networking sites are often perceived by users as closed environments where members talk to each other. This impression of social networking service as a provider of a private area is likely to be responsible for the behavior, language and messages that are not well translated outside their closed frame.

The generated network of friends or contacts sharing similar interests, business objectives, or academic courses has replaced for many people, especially new-aged people, the older notions of community. Social networks allow friends to comment on each other's profile, send private messages within the network and see their contacts created in each member’s profile. Finally, it allows members to enhance their profiles with audio and video clips and even some services. They offer open source software to allow third parties to develop and build applications. These programs include games, quizzes, tools to manipulate images and notes with what has happened lately.

SOCIAL NETWORKS AND THE NEW COMMUNICATION REALITY

Social networking services that are currently available can be organized and divided into two main categories:

1) Services organized mainly around user's profile;
2) Services organized around the collection of content (Subhasish, 2010).

These two general categories are related to the development of many different services and refer to the following (Boyd and Potter, 2003):

1. User and information on his profile;
2. Users connected to the user;
3. Groups in which the user belongs;
4. Relationship development.

Based on the aforementioned, it is understood that the emphasis on social network services is given to the user and the network set up by friends. Social networking services have to do with people and the network of relationships created. Defining features of the social networking services are (Subbadish, 2010):

1) Tools used for publishing personal data on a person’s profile and publishing content created by the user related to user’s interests and privacy;
2) Tools for personalized and social interactions based around user profile (for example, recommendations, discussions, opinions report, organizing social events and event reports);
3) Tools for establishing social relations that determine who has access to the information available in social networking services and who can communicate with whom and how.

Facebook and MySpace are very good examples of social network services based on users profile (Walker, 2012). In social networking services based on the content and the user profile, it still remains a way to organize connections and the publishing content is of secondary importance.

Flickr website that distributes photos is an example of such a service in which various groups publish comments on the photos. Shelfari is another example of such a service, since it is a website intended to offer books to users. Another example of social network service based on the content includes YouTube.com which focuses on audiovisual material sharing (Walker, 2012).

Most social networking sites offer a service to create groups that allows users to form small communities within websites. Platforms such as People Aggregator and Ning, launched in 2004, offered members a different standard. They offered members the chance to create and join communities.

Sites such as Second Life and World of Warcraft which are multi-user environments also allowed users to interact with each other by avatars. Although users have profile cards, functional profiles are the characters to adapt or create and control (Klein and Quelch, 2006).

Many social networking sites, for example, MySpace and Twitter, offered mobile phone versions of their services by allowing members to interact with their friends through their mobile phones.

The Micro-blogging services like Twitter and Jaiku allowed users to quickly promote public messages or within contacts groups. These services were created to function as mobile services, but they are used by a large number of people and in the Internet.

Boyd and Ellison (2007) concluded that “What makes social network services unique is not the fact that they allow individuals to meet strangers, but how they enable users to articulate and make their social networks visible. This can result in connections between people who otherwise would not be, but this is not the target and these meetings are the links between latent who share some offline connection” (Catone, 2012).

Eventually, the use of social networking services offers countless activities. Among the most common applications include the following:

- Connection to existing networks, creating and development of friendships/contacts: Young people tend to use social networking sites to communicate and socialize with their contacts and consolidate their existing friendship networks.
- Online representation, creating and developing online presence: Social networking services provide space for members so they can create and present an online representation of themselves either through friendship or wider networks.
- Content Monitoring/finding information: Apart from keeping update with other users’ activity they can still use social network services to produce preferences based on interests and activities. Social networking services are rich in content, pictures, music and videos.
- Create profiles: There are many different types of profiles, but they usually consist of a website that is supported by a range of tools. Profile pages are not just lists of information, but allow members to develop and present their image worldwide and promote their online identity.
- Content creation: Content can be in the form of text messages or blog texts – It also can be photos, videos or music.
- Addition and distribution of external content: External content can be in the form of links or embedded content hosted somewhere else, for example, a video hosted on YouTube’s website or other similar video hosting service that can play at members profile webpage.
- Messages - public and private: Many services support public and private messages through message inbox or e-mail services. Media such as MySpace and Facebook offer their members an instant messaging system.
- Collaboration with other people: By using service tools to create groups, users can collectively create profiles, discussions and store, share and make comments in acts. These processes through messaging can be a rich source of informal cooperation (Josie, 2008).

FACEBOOK AND EDUCATION

Facebook is one of the most popular social networks of general interest, which was developed on the internet with tremendous expansion in recent years, both worldwide generally and in Greece particularly. There are of course many other social networking websites such as Twitter, LinkedIn and MySpace, etc., where there have been a
disproportionate increase in their use. This fact expresses the innate need for communication in a more modern way. Facebook is available in over 70 languages and its use in Greece increases every year.

Considering its positive results in the educational frame we have to mention:

- Universities can inform the public through Facebook about their activities and provide links with material of educational or pedagogical interest. They can also resolve administrative issues on fast dissemination of information (for example, student registration, examination information, issue of certificates and notification on program changes, etc) and play an informative role in the field of upcoming training programs, seminars and conferences for both teachers and students.
- Teachers using innovative pedagogical methods increase learners' interest and also helping them to develop their cognitive abilities and skills through an effective learning process. The social network is not used as something extra but it is embedded in the course activities.
- It facilitates communication among students (Armstrong and Franklin, 2008) and helps to develop collaborative programs (projects) with other educational institutions. As Facebook allows establishing relationships with other students, they can consult and get information that cannot be received in conventional ways, such as books from each other about lecture summaries and ask questions, etc. This information and online services help save time and money.
- It offers multiple possibilities for creating and sharing new knowledge with high levels of dialogue, interaction, mutual support and co-operation. Co-operation between students through flexible discussion and negotiation procedures with a choice of content and direction of the learning process keep them informed and active (Ellison et al., 2007). In a research by Choi (2013), students argued that they could ask any question and have an immediate reply from their classmates same day. They highlighted also that they benefit from other student's questions and solutions.
- New forms of culture and learning emerged through encouragement, support, effective interaction and mutual trust among participants. In a research by Yang and Brown (2013) it is shown that student's interaction by using Facebook makes them have a better social adjustment and feeling less loneliness. As well as social presence is enhanced, students feel more satisfied and that makes them perform better.
- Researchers also found that one of Facebook strengths may be its ability to enhance classroom community, helping students to get to know one another and share information in a supportive environment (Hurt et al., 2012). They suggest that future research have to investigate how specific features of Facebook facilitate community building.

The use of Facebook as a learning environment in higher education is not without potential risks and limitations. Despite the benefits of engaging in Facebook, there are negative repercussions of Facebook that are highly alarming:

- Most adult students already have a profile on Facebook, where its daily overuse leads to reduced performance as they neglect their academic obligations. Conflicting evidence exists on the impact of Facebook on dedicated study time with some authors suggesting that Facebook users spend less time studying and achieve lower academic results as compared to Facebook non-users (Kirschner and Karpinski, 2010), whereas other authors have not found this association (Kabre and Brown, 2011).
- Furthermore, the inaccuracy and provision of invalid information (De Villiers, 2010) is a serious disadvantage generated mainly by using Facebook. As such, the teacher should always check every post that gives wrong information or instructions to students.
- The excessive number of teacher’s posts may not be manageable by all students as too many postings and alerts can irritate members and discourage their participation in the group (O’Bannon et al., 2013).
- It is considered a waste of money due to additional expenses for surfing and even addiction (Kuss and Griffiths, 2011; Ulusu, 2010).

The use of new technologies in education has enriched teaching with image, animation, audio and the possibility of interaction. These data, in the first place, make the learning environment more attractive for the student and secondly, help him or her to understand difficult and abstract concepts. They also give the course a more enjoyable and more realistic form and this has an effect on attracting student’s attention and interest, which is particularly desirable in the educational practice since the simple interest is expected to turn into learning and active involvement. That makes the ICT contribute to visualize the subject curricula and consequently, to activate and motivate the student. Indeed, ICT helps to motivate that kind of students who are not motivated by traditional teaching.

The technological means have facilitated the access to knowledge and information. The internet by search engines provide varied and latest knowledge without space-time restrictions so we could tell that completes the operation of the only existing hard copy. Also, ICTs promote active learning by allowing the learner to control and manage the process whereby learning. That gives him the opportunity through a wide variety of actions to build the knowledge himself depending on his interests and through methods such as discovery and experimentation. At this point, self-assessment and development of critical thinking are involved and necessary data for their future professional and personal development (Becker, 2000).

The teaching approach of all subjects with the use of IT is now considered necessary with the involvement of both the student and the teacher. The teacher will be the
facilitator and partner to the student in order for the latter to utilize the computer and generally the information technology to his advantage. It is essential therefore to use the computer in the teaching process (Boulouta, 2015). The reasons why this should happen are many. The computer is a dynamic communicative learning tool for the student. He can derive information material from electronic encyclopedias or the Internet. With the right educational software, he deepens and enriches the teaching module elaborated. With the cooperation of the group to which he is a member in the classroom during the teaching process, he can create relevant materials to what has been taught. Finally, he is familiar with a tool that is necessary in daily modern life (Becker, 2000).

CONCLUSIONS

We are going through a new digital era where education and those involved in it must take into account all the new developments and diversification prospects in the teaching-learning process. It is important that educational networking and learning carried out anytime anywhere should include student’s daily routine and the academic environment. Technological means have facilitated the access to knowledge and information. The internet with social media provides varied and latest knowledge without space-time restrictions and we could say that completes the function of the only existing hard copy. The use of online social networks in education provides a promising opportunity in formal and informal ways of learning that are complementary. Surveys have shown that social networking tools can support educational activities and that is because they contribute to the interaction, active cooperation, active participation and sharing resources and information, as well as to the development of critical thinking.

Young people learn more easily through their creative participation in social networks. ICT promote active learning since they allow the student to control and manage the process whereby learning. Through a wide variety of actions he can build the same knowledge depending on his interests through methods such as discovery and experimentation. At this point self-assessment is involved and the development of critical thinking and the necessary data for subsequent professional and personal development (Becker, 2000).

Education is not just about using another fashionable technology tool; it is about quality communication achieved through the tool. Technology should not and will never replace education, but can assist educational practice, improve teaching efficiency and also enhance student learning experiences. Students feel comfortable to use the tools that they already know. Social media tools are an open resource, which also means they are open to uncensored public. It is the educators’ responsibility to make sure this learning environment is protected for the best interest of student learning. It is also the responsibility of educators to train students and equip them with analytical and deep thinking skills during the process of using social media resources. Intelligent adoption of social media tools can engage students in interactive learning, which is the key to a successful education.

Especially universities can use Facebook to inform the public about their activities and provide links to educational materials or subjects of educational interest. Although Facebook is in the first place, an infrastructure for socialization and not a learning platform, it can combine both. It can hold significant benefits for students, but the use of Facebook can also damage the learning process and that should not be ignored. Students could use Facebook as a platform to exchange academic information and the fact that some of the benefits that Facebook holds for students can be acquired by using different online forums hosted by academic institutions should be considered. These forums were built to be a platform for sharing learning contents and information among students but were not meant to be a platform for social communication, though Facebook may combine both.

In summary, Facebook may have a significant impact on students’ learning process, both positively and negatively and viability depends on the student’s academic year, amount of Facebook use and the purpose of the use. In the future, apparently, more and more students will use Facebook and the time students spend on Facebook will rapidly increase as it has in the previous six years. Technology is evolving rapidly with Facebook by its side and as such is likely to offer more and more applications and attractive user interfaces through ubiquitous devices that may distract students from the learning process. Institutions of higher education around the world have started focusing on the benefits of Facebook for educational purposes (Boon and Sinclair, 2009). Facebook was not developed to be a supportive learning environment but it has a potential to be. More and more educational institutions use social networks for academic purposes.

Integrating social networks with purely educational orientation and education-based social networking sites seems to be an almost ideal solution. Facebook seems to have the potential to be exploited for the benefit of the students despite the negative characteristics. Samples of this new way of learning are still scarce, as we are only at the beginning of this new process. This preliminary evaluation of Facebook as a learning aid suggests that it has the potential to promote collaborative and co-operative learning, but further research is required specifically to understand if and how it can enhance learning outcomes. Future research should focus on the views of the academics for the use of social networks in student education even in the Greek educational system. Continued investigation of Facebook use in university education skills which must be
culturated both by teachers and students may provide further insight into these matters such that they can be exploited.

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