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SOCIAL NETWORKING AS AN ALTERNATIVE ENVIRONMENT FOR EDUCATION

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ABSTRACT

The main purpose of this research is to analyze the impact of social networks on educational process in Romanian higher education. Employing a theoretical framework regarding the educational value of the social networking web sites, we propose a model of implementing Facebook usage in higher education leaning processes. In order to support our argument, data were gathered through a survey on students and academics at the Bucharest Academy of Economic Studies. Our results reveal that social networking sites have become very popular among students and might be considered as valuable tools for education. The study also opens a wide perspective on students' availability to use social networking sites, but also other web based technologies. While the literature concerning the educational process in Romania is scarce, we contribute by providing empirical evidence about the degree of availability of students and academics in using social networking sites for education.

On line social network, e-Learning, Educational context, Facebook, Computer Supported Collaborative Learning

INTRODUCTION

Due to the continuous increase of using new IT&C technologies in everyday life, the implementation of these technologies in learning activities becomes a necessity. Although the e-learning platforms are implemented in universities all around the world, the educational methods, techniques and educational software tools do not have always keep the pace with the new information technologies. An example is the social networking sites which are very popular, being accessed regularly by most students and teachers, but not yet considered an instrument for learning and teaching.

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However, Lee and McLoughlin (2008) consider social networking sites as educational tools because students can use them for communication and social support as well as for discovering and sharing knowledge.

However, because of their advantages in communication, these social networking sites have a huge potential for education. This subject is under debate and under study in different countries and cultures, and input is needed from various perspectives. The main purpose of this research is to analyze the impact of social networks on educational process in Romanian higher education. We use questionnaires to collect data from students and academics about their experience with social networking sites in general and for educational activities in particular. While the literature concerning the educational process in Romania is scarce, we contribute by providing empirical evidence about the degree of availability of students and academics in using social networking sites for education. These results might be useful for innovative teachers or for universities when considering modern techniques and technologies.

The remainder of this paper is organized as follows. After stating the motivation of this paper, we present a literature review of the social networking sites. The methodology and results follow, and finally the conclusions and implications are presented.

1. LITERATURE REVIEW

1.1 Motivation

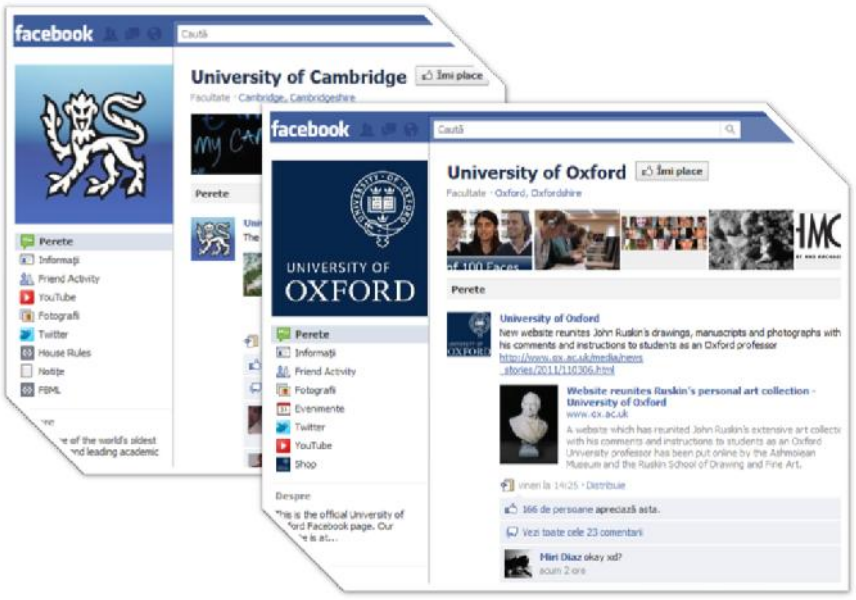
Kleiner *at al.* (2007) conducted a study regarding the development of educational technologies and found that the reluctance of teachers is the key of non-integration of new technologies in teaching. Probably many Romanian teachers still consider social networking sites as a kind of virtual playground for teenagers. But there evidence that social networking is a more complex phenomenon and there are the politicians who prove that social networks are not just a funny places on the web and are worth to pay attention (*Figure 1*).

There are already several educational institutions which are using social networking establishing relationships with students' accounts, even if some negative aspects might be also emphasized, as Flynn (2009), Stansbury (2009) and Young (2009) illustrate. For example University of Cambridge and University of Oxford are very keen on promoting their Facebook pages (*Figure 2*).

Figure 1. **Social networking became a more complex phenomenon**



Figure 2. **Several educational institutions are using social networking in order to establish relationships with students' accounts**



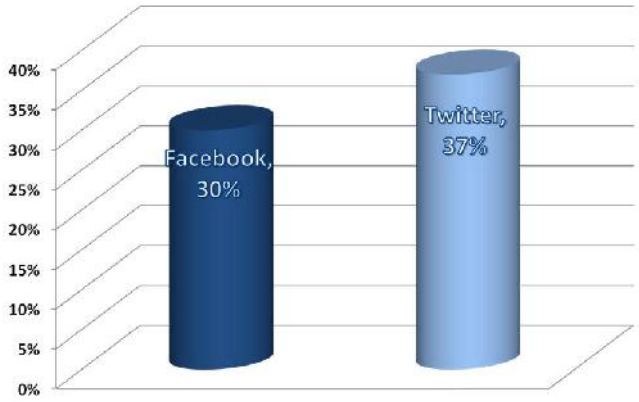
These models could be useful to eliminate teachers' reluctance and to demonstrate that social networking sites are basically a solution for teachers to be constantly in touch with students (Roblyer *et al.*, 2010). The key of success consists not only in a

prompt response regarding the evolution of support technologies for teaching, but also in reengineering educational processes through developing and implementing new concepts as Computer Supported Collaborative Learning (CSCL) which encourages collaborative development of knowledge. From this point of view, modern e-learning platforms have radically changed students and teacher's role in learning activities and are promoting the concept of social learning by using social software tools (such as blogs, online encyclopedias and virtual worlds). In scientific papers, this tendency to transform e-learning process and to convergence with social networking is referred by some authors as Long Tail Learning (Karrer, 2008).

E-Learning 2.0, unlike systems not based on CSCL, involves the accumulation of knowledge as a social phenomenon which can be socially constructed and is based on effective learning through conversations and various types of interaction in the virtual environment (Casquero *et al.*, 2010). In recent years, a massive increase in the number of virtual classes or delivered live online presentations was recorded in higher education all around the world. Complementary to virtual classes, accessing social networks as learning environments has become a basic concept for E-learning 2.0 frameworks.

The main role of social networks is to coagulate virtual learning communities within the scope of discussions on topics such scientific subjects, virtual experiments or other various themes as exams preparation. A major impact in promoting these activities focused around the concept of "social networking" is provided nowadays by the development of client applications for mobile devices which enhances their accessibility. Moreover, the development of technologies needed to implement e-learning software on the latest generation telephone devices and other mobile devices has led to the shaping of new concepts such as mobile-learning or, in learning foreign languages, Mobile Assisted Language Learning (MALL). In the area of social networking, recent surveys highlighted that 30% of Facebook users and 37% of Twitter are using the networks from mobile devices (*Figure 3*).

Figure 3. **Social networking web sites: Login via mobile devices**



1.2 Social networking sites

Formerly designed on communication purposes and for improving information exchange among small groups of users, social networking sites have become quickly very popular, and the number of users from a wide geographical area joined the groups and became regular clients. In general, the social networks sites provide users with a private virtual space where each one could build his own public profile and manage a list of links to other users' profile (Boyd & Ellison, 2007).

Facebook (facebook.com)
Founded in 2004 by Mark Zuckerberg, this social network site was formerly named thefacebook.com and was designed as a closed online social network, available only for Harvard University staff and students. Subsequently, network access has been extended to other universities and companies like Apple or Microsoft. Since 2006, Facebook provides free access regardless the membership in a university or company. The network is based on Web 2.0 technology and is available from any computer with Internet access, providing support for other several device types, including mobile devices, benefiting from optimized software interfaces, especially designed.

Users can look up for their friends from around the world and can build their own profile that can be public or private. The profile could be changed at user will or, public profiles could be blocked by the administrators if other users are reclaiming the content. Each user is allowed to post messages or photos which, also, could be public or could be addressed to a specific group or users. More recently, Facebook also provide different types of games for the users' entertainment.

The main controversy which Facebook has been facing since the beginning concerns the respect for private life, given that information about user's privacy can be gathered for advertising purposes, by placing ads on the each user's page and several analyses are made by Facebook for his commercial partners in order to study the social behavior of each user.

Undoubtedly, at this moment, in Romania *facebook.com* is one of the most popular social networks and is estimated that approximately 1.5 million Romanians are using Facebook (Negrila, 2010). Despite the worldwide spread of Facebook users, there are still countries in the Middle East (or even China) where Facebook is banned or limited.

In terms of educational impact on higher education institutions, at the moment there are several institutions registered on Facebook, but also students, parents and many groups specially created for finding school or university colleagues. Actually, on Facebook we find all forms of interaction between educational services providers, direct beneficiaries of education services, and why not, parents of students as

stakeholders. These interactions can take several educational approaches for Facebook users:

(a) Learning for using Facebook.
(b) Using Facebook for learning.

(a) ***Learning for using Facebook*** could be consider a strange approach, but this is a concept which emerges from the users' incontestable interest in own information security and privacy in order to answer to questions such "What could happen when a student makes public his/her information on Facebook ?"
On the *facebookforparents.org* website tips and good practices are available for parents, in order to keep safe the children while they are surfing on Facebook pages.

Things have gone further and there are software applications designed for data security which provide the option to deny access to Facebook to specific users of a given computer. However, a proper understanding of social networking concept and a proper evaluation of knowledge spreading potential could be an important step for decision makers in network security for many institutions.

(b) Regarding from the *Using Facebook for learning* point of view, teachers seem to be less convinced than students to use Facebook. The teachers' reluctance on using Facebook to communicate with students is not probably resulting from their conviction that using Facebook would not produce beneficial effects on learning, but from their concerns about security of information conveyed in social networking and high exposure on the Internet for teachers' privacy.

There are many possible uses of Facebook in education, some authors (Onlinecollege.org, 2009) stating about 100 ways to use Facebook in the classroom, in order to provide value to the educational process. The main features which recommend Facebook as a valuable tool which could be used in education are:

- Teachers can **create custom list of students** and **manage groups of students** on custom topics related to courses;
- **Exchanging information** through links, photos or multimedia content related to specific subjects;
- **Creating surveys** and **quantifying the feedback**.
- Using the on line chat for **direct communication** between students and teachers.
- **Publishing news** on tests, exams or face to face meetings.
- **Integrating Facebook with other collaborative services** provided by other application (like Google docs).
- Using Facebook as **a complement for an eLearning platform**

Twitter (twitter.com)
Twitter is a micro blogging service based on WEB 2.0 technology. The main characteristic of Twitter is the feature of transmitting short messages like SMS, up to 140 characters. Formerly, many users considered Twitter an alternative SMS service

in the Internet. Being two years younger than Facebook, Twitter is online since 2006 at www.twitter.com. In the online community, the short messages transmitted through twitter are known as "tweets" and the users of Twitter "tweeters". In order to transmit a message, a user could directly access the twitter web site or could use a dedicated interface such: Twitpic, Digsby, Tweetdeck, etc. Several mobile phone operators from different countries allow the transmission of messages on Twitter network through SMS, using your mobile phone.

The base concept for Twitter is to allow the users to publish their own notes on a personal Twitter account and, in the same time, to let them read messages posted by other users on their accounts. Each person could define a custom list of Twitter users and is allowed to follow notes posted by these people.

Starting from these premises, the virtual space provided by twitter for micro blogging is used nowadays in many activities:

- **Publishing news** by newspapers or media agencies. There are several TV stations (like CNN or PROTV) which publish the latest news on Twitter, allowing users to be informed in the shortest time via mobile phone notifications.
- **Promoting blogs**. Many Twitter users have personal blogs and are using Twitter in order to promote their activity on a personal blog and to attract new visitors. Meanwhile on blog pages could be inserted Twitter widgets which foster the micro blogging.
- **Promoting political activities.** In recent years Twitter started being used extensively for political action: elections, protests, etc. There are countries (Barry, 2009) where large protests were coordinated on Twitter, when local authorities tried to censor the calls to protests in local media.
- Projects advertising by institutions
- Advertising cultural events.
- Launching books or web sites.
- Seting up surveys.
- Marketing.

Using a micro blogging service in the educational process may seem at a first glance cumbersome and inefficient, because the features that could be used in the educational process are not as complex as in the case of Facebook However, micro blogging network offers some advantages that can be emphasized in the educational processes:

- **Tracking news** about books, journals or treaties available in the libraries of educational institutions.
- **Rapid spread of information** about scheduled face to face meetings, exams, or seminars.
- **Rapid spread of solutions** to exercises, problems or specific controversies.
- **Posting bibliographical notes** or hyperlinks to scientific references by teachers and students.

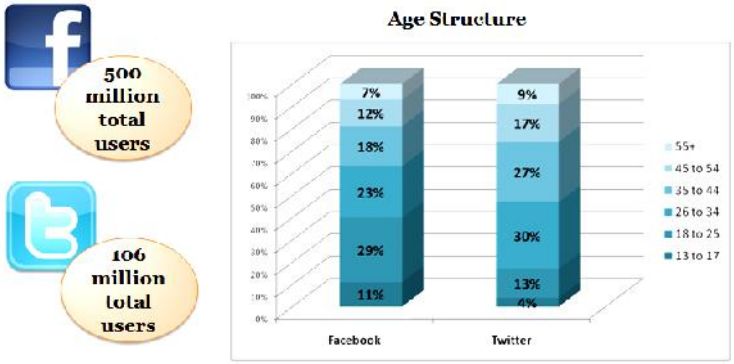
- **Facilitate the solving of specific problems** which may be easily solved in a group.
- **Teachers can set also up surveys** and collect feedback information.
- Short messages of 140 characters offer a high degree of **conciseness** and develop the ability of teachers and students to communicate in a more efficient way.

However, using a micro blogging platform in the educational process, whether it's Twitter or other platform, might lead to controversial situations because of the specific environment for conversations,. Regarding Twitter, some negative aspects might be mentioned:

- Twitter does not allow users to define groups in order to design a structure of courses on topics of interest or to define specific groups of students as targets for messages. If a teacher coordinates several courses for different groups of students, spreading messages only on certain groups is difficult and information could become irrelevant.
- Rapid propagation of rumors (intentionally or not intentionally).
- Because of limited message size to 140 characters, users can get to make gross errors of expression.
- Messages could become a source of spam.
- Some students could prefer just to take advantage of others' work, posting notes from time to time just to look like they are working.

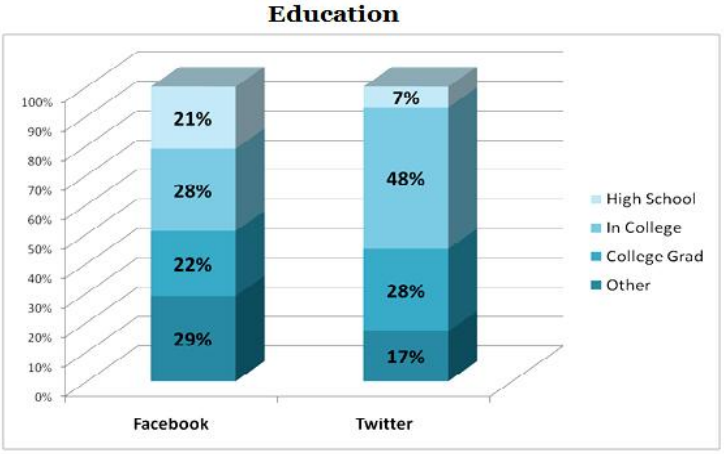
We also found interesting the latest demographic statistics which prove that social networking is sharing a large segment of users with schools and universities. For example around 50% percent of Facebook & Twitter users are people under 35 years.

Figure 4. **Facebook & Twitter Facts[i] - 2010**



The same statistics reveal that 49% percent of Facebook users and 55% of Twitter are involved in educational activities in high schools or universities and another quarter has already graduated (*Figure 5*).

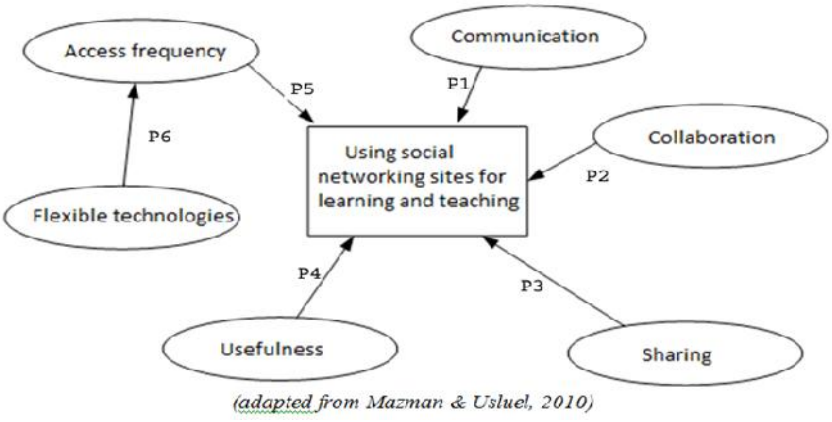
Figure 5. **Facebook & Twitter Facts[ii] - 2010**



2. METHODOLOGY

We employ a model for educational use of social networking adapted from Mazman and Usluel, (2010) (*Figure 6*). In this model the authors proposed to develop the usefulness of social networking sites for learning and teaching in terms of six components: *communication* with teachers or peers, *collaboration* in a particular group of learning, *sharing resources* through interchange of documents and multimedia resources, *the usefulness in the educational process* and the *frequency of access*.

Figure 6. **A model for using social networking sites in educational context**



(adapted from Mazman & Usluel, 2010)

This model allows us to make some propositions about the use of networking sites, which will be discussed based on the data collected from students and academics.

Communication with teachers
Communication with teachers through social networking could be considered an extension to "face to face" classroom communication.
P1: Communication has a significant influence on the potential use of social networking sites for educational purposes

Collaboration
Several papers (Ajjan & Hartshorne, 2008; Lockyer & Patterson, 2008) emphasize that social networking sites provide support for collaborative learning.Users of social networking sites can join study groups corresponding to a certain school, class or group they belong to and can share educational resources and knowledge in an easier way.
P2: Collaboration has a significant role in using social networking as a support for educational activities.

Resources and knowledge sharing
Using social networking sites allows sharing multimedia resources like photos, videos or hyperlinks to other web resources. One of the main advantages in using social network sites as a tool for education consist in a unique approach which involves collaborative group work and sharing of knowledge.
P3: Resource sharing has a significant influence on the use social networking sites in educational purpose.

Usefulness
The utility factor concerns about the "the degree to which a person believes that using a particular system would enhance his or her job performance" (Davis, 1989).

The usefulness of social networking sites is provided by facilities offered to users, such as communication, interchange of information and resources that could be achieved through a public or semi-public profile accessible to other users.
P4: The usefulness has a significant influence on the use social networking sites for educational purpose.

Frequency of access
Some authors believe that using social networking sites in everyday life (Mazman & Usluel, 2010) and the fact that most users spend a lot of their time online provide a good support in the context of education.
P5: Frequency of hits has a significant influence on the use of social networking sites in educational purpose.

Use of flexible technologies
The technological boom in IT&C technology allows access to web sites anytime, anywhere through mobile communication devices.
P6: Flexibility of access provided by new technologies has a significant influence on the frequency of accessing social networking sites.

In order to examine how students perceive the use of social networking sites for educational purposes a questionnaire-based survey was developed (Appendix). The questionnaire was filled in on a voluntary basis by 64 students and 30 academics from the Bucharest Academy of Economic Studies. Demographic information are presented in Table 1:

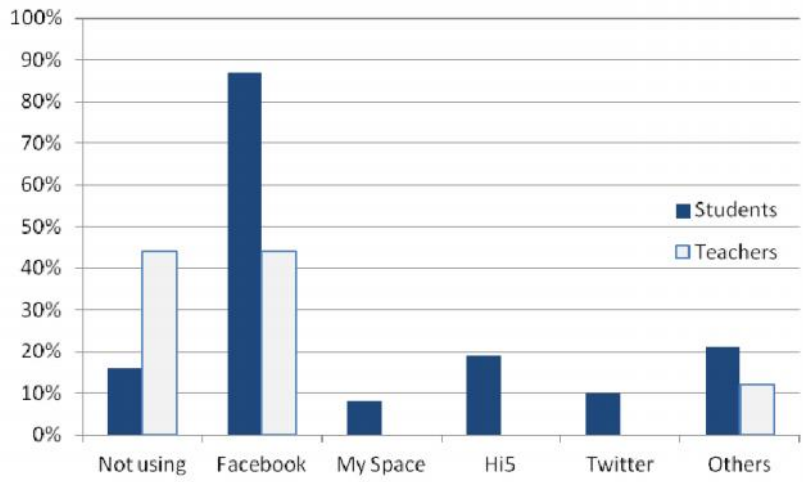
Information	Students	Academics
Number or respondents	64	30
Sex		50% men, 50% women
Age		50% - between 31 and 40 37% - between 41 and 50 13% - over 50

3. RESULTS AND IMPLICATIONS

Social networking sites

According to the survey we found that Social networking is common among young people in Romania and only 16% of students do not have an account on a social networking site. The most used social network is Facebook with over 87% of participants at the survey being registered on Facebook. The survey also reveals that Twitter is not so popular among students from Bucharest Academy of Economic Studies.

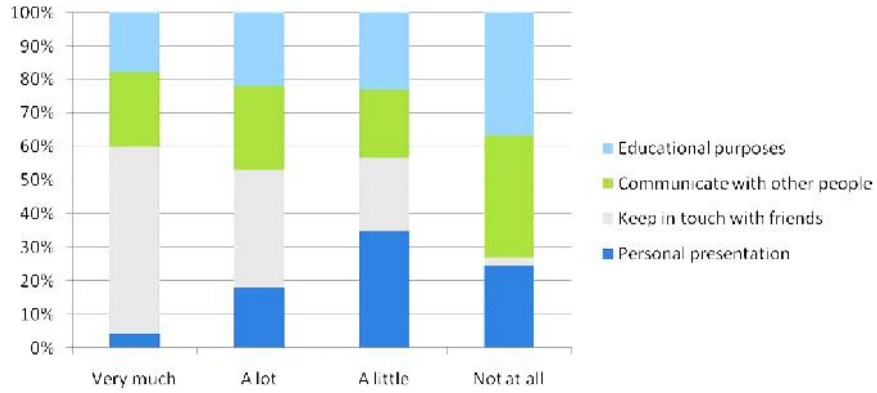
Figure 7. **Preferences on social networking sites**



Social networking phenomenon also gains popularity among teachers (56% of interviewed teachers have an account on a social networking web site). Facebook is the most popular network among teachers (with 44% of participants having a Facebook account).

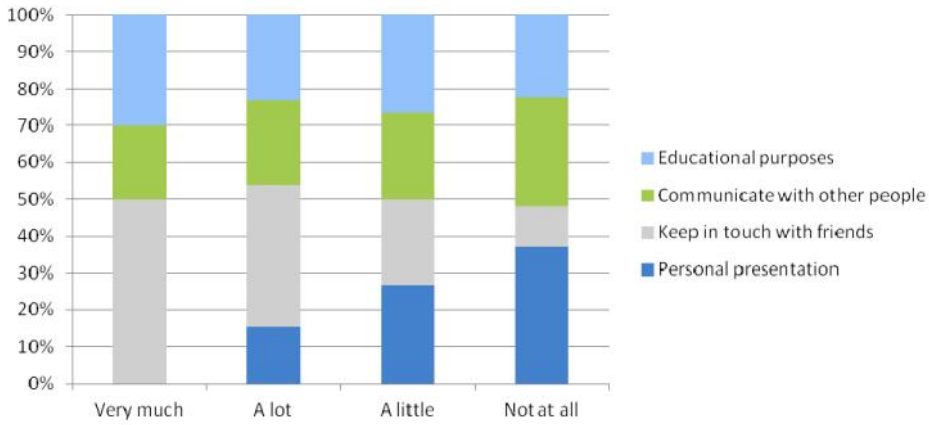
Another target of our survey was to find **why students are joining social networks**. Nowadays, social networking sites are mainly used for keeping in touch with colleagues and friends (over 60% of respondents saying that they have registered for this purpose).
Communication for educational purposes has a smaller percentage of respondents (around 28%).

Figure 8. **Why are students using social networking?**



Among teachers, social networking websites are appreciated for keeping in touch with friends colleagues (50% of questioned teachers are using Facebook or other site in this purpose). Communication for educational purposes is less popular (about 30% of teachers considered web sites as Facebook as a potential support for communicating in educational activities).

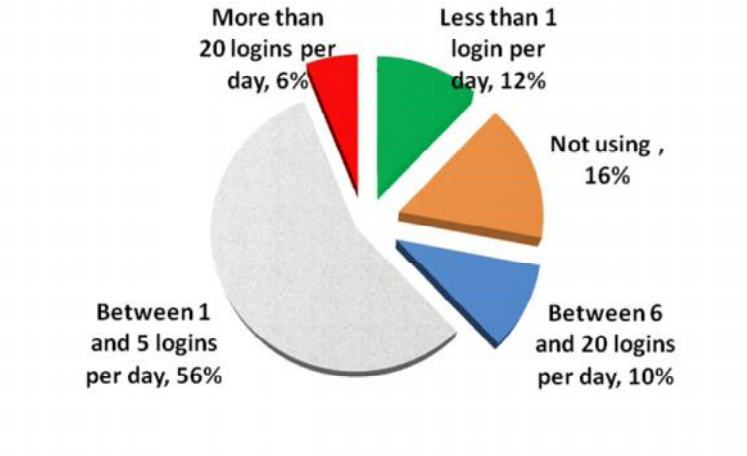
Figure 9. **Why are teachers using social networking?**



Frequency of access

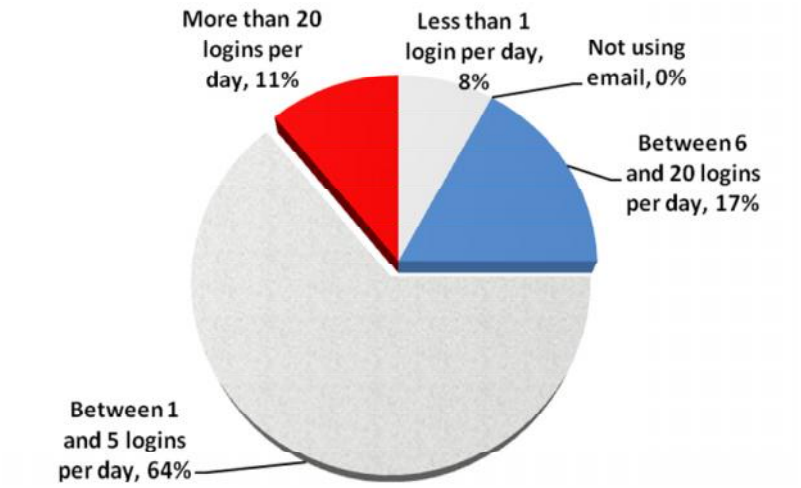
In terms of frequency of access, most users (around 67%) are accessing social networking sites from 1 to 5 times a day and around 6s% could be considered pretty addicted to social networking. They are doing over 20 logins per day.

Figure 10. **Frequency of access (social networking sites)**



Another highlighted point in the study is the link between the frequency of hits on social networking sites accounts and e-mail services as means of communication. According to the survey results, it seems that the trend of registering on social networking web sites and email accounts is the same ($t = 0.31$, $p = 0.76$). All the survey participants are using email and 92% access their accounts at least once a day.

Figure 11. **Frequency of access (email accounts)**

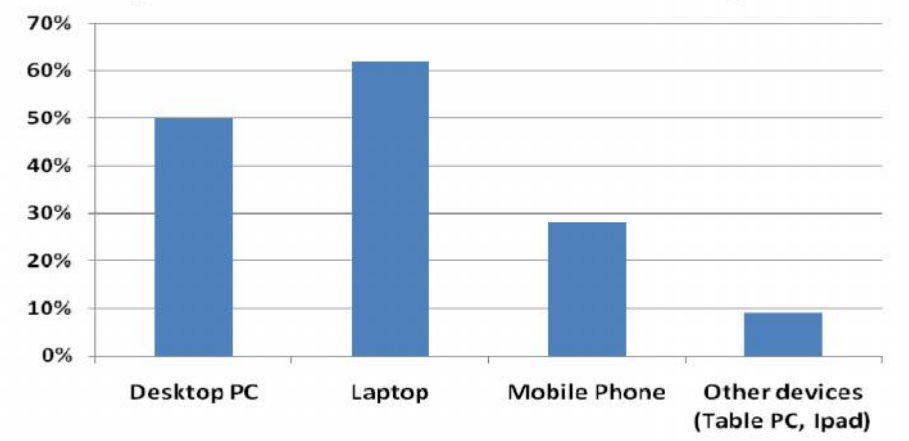


The study did not reveal a certain connection between frequency of hits and the use of social networking sites in educational purpose, so the P5 proposition could not be considered as verified.

Flexibility

Technological flexibility involves use of electronic mobile devices to access the sites for social networking "anywhere and anytime". Regarding flexibility of access, most of survey participants are using laptops (62%) while 25% are using mobile phones. Very few said they have used other devices (like tablet PC or IPad), this kind of devices tends to become popular in our country but they are still quite expensive for students.

Figure 12. **Devices used to access social networking sites**



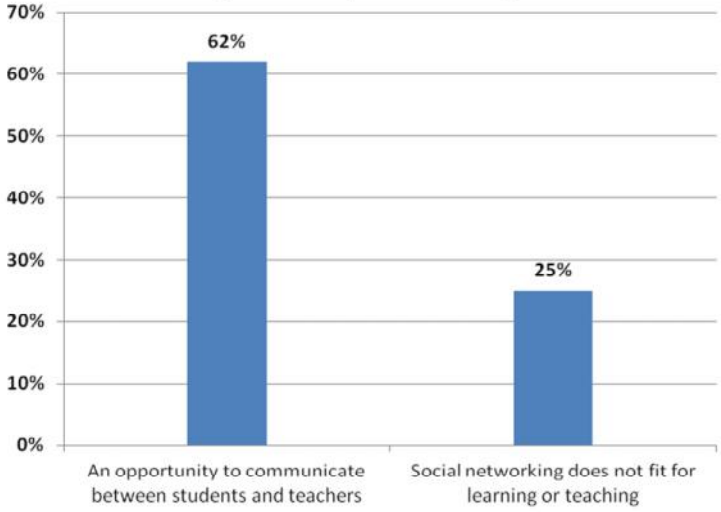
The use of several types of devices in order to access social networking sites sustains the P6 proposition.

Prospects for social networking sites as support for educational activities

At a more specific question regarding the prospects for social networking sites as a support for educational activities, most of the respondents (about 62%) consider using social networking sites an opportunity for communication between students and teachers and around 25% consider that online social networking does not fit for education. (*Figure 13*).

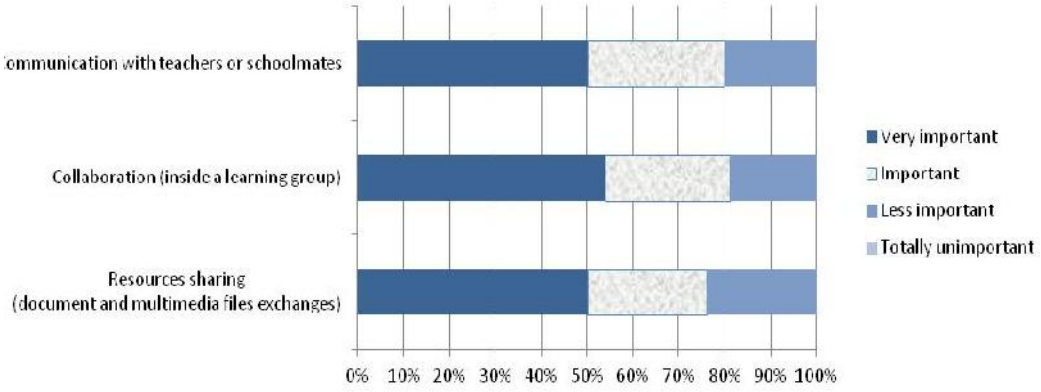
Discussing from the teachers point of view, 45% of questioned teachers are reluctant about using social networking in education and only 30% consider this alternative environment as a potential support for communication or learning. The survey's results confirm the P4 proposition.

Figure 73. **Use of social networking sites for educational purposes (students' point of view)**



Communication, collaboration and sharing of learning resources and knowledge
In terms of use social networking sites for educational purposes, most of students who responded to the survey (around 50%) believe that sharing resources, collaborating through online social networking and communicating with teachers are very important in using social networking sites for learning and only around 20% of the students found one of these less important.

Figure 84. **Communication, collaboration and sharing of learning resources and knowledge**



Analyzing data from the survey conducted it can be concluded that P1, P2 and P3 propositions are confirmed.

DISCUSSION AND CONCLUSIONS

Tools for education provided through social networking sites offer specific advantages especially for distance learning, using an affordable and popular environment. Currently, online social networks are used by heterogeneous groups with different ages which tend to integrate more and more facilities offered by these networks in their daily lives. There is no doubt that, with the unprecedented expansion of social networks, personal data security policies must to be improved and users are have to be better trained to protect themselves. In recent years several social networking users have been victims of hackers, spam, malware or phishing.

One of the most popular social networks in Romania is Facebook, which is gathering many visitors, especially young people, from different backgrounds and continues to expand rapidly in all age groups. The rapid development of technology in the field of mobile devices is opening new opportunities for knowledge transfer and social networks are the first to benefit. Student are very receptive to the development of technologies for mobile devices and implementing e-learning software on the telephone devices or other mobile devices is already leading to the shaping of new concepts (as M – Learning or mobile-learning).

According Facebook Statistics, there are more than 250 million active users currently accessing Facebook through their mobile devices and people that use Facebook on their mobile devices are twice as active on Facebook than non-mobile users. Also, there are more than 200 mobile operators in 60 countries working to deploy and promote Facebook mobile products. As regards the support of these networks for educational processes, as we noted in the above analysis, there are users of social networking, whether students or teachers who do not realize the benefits of certain features of these networks educational purposes. The percentage of Romanian students who show reluctance to communicate on networks like Facebook for educational purposes is still pretty high. Teachers questioned in our small-scale survey tend to use social networking less than students but they are more involved in using this alternative environment as supports for education (especially for communication with students). Of course, this could be also interpreted as an issue of social culture on student- teacher relationship in Romanian universities.

In 2007 Facebook officially published some statistical data regarding users' activity on the network. The data revealed that the visitors spend a lot of time interacting with other integrated applications in Facebook (at that time were estimated 88 million visits with an average duration of 4 minutes and 30 seconds and not less than 14 millions unique visitors). Facebook applications are custom functionality that works within the Facebook environment. The code runs on a separate server, but the applications interface plays back inside Facebook. A great challenge for e-learning solutions developers is related to the integration of collaborative tools in education. For social

networks web sites, but also for the educational system, a very important step would be to develop additional features geared towards the development of social learning concept, and to develop and foster tutorials on how these networks could be used to socialize at school and home.

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APPENDIX A

Questionnaire on the impact of social networks on educational process in Romania

1. What social networking sites do you use?

FaceBook	MySpace	Twitter	Hi5	Others	I do not access social networks

2. How often do you visit social networking sites?

I do not access websites for social networking	Less than 1 time per day	Between 1 and 5 logins per day	Between 6 and 20 logins per day	More than 20 times daily

3. How often do you access other online communication technologies (email)?

I do not have an email account	Less than 1 time per day	Between 1 and 5 logins per day	Between 6 and 20 logins per day	More than 20 times daily

4. Do you use social networking sites to:

	Very much	A lot	A little	Not at all
I'm not using social networks				
Communicating with people whom I've not seen recently				
Keep in touch with colleagues				
Communication in educational purposes				
Personal presentation				
Others (please specify)				

5. If you are a member of one or more social networks *:

	desktop pc	laptop	Mobile phone	Other devices (Ipad, tablet pc, etc.)
Access social networks using:				

* You can specify multiple variants

6. To what extent do you consider the following elements in the use of social networking sites for teaching and learning?

	Very important	Important	Less important	Not at all important
Communication with teachers or colleagues, links to topics, resources or training				
Collaboration (within a particular group based on the sharing of educational topics, resources, projects, ideas, etc.).				
Resource sharing (interchange of documents and multimedia resources)				
Others (please specify)				

7. What do you think about the prospects of using social networking sites as a support for classroom activities?

An opportunity for communication between students and teachers	Online social networks are not for education	Others (please specify)	I don't know

8. You are:

Male	Women

9. Your age:

Less than 20 years old	Between 20 and 30 years old	Between 30 and 40 years old	Between 40 and 50 years old	Between 50 and 60 years old	Over 60 years old

[i] *Data provided by Digital Surgeons, www.digitalsurgeons.com*

[ii] *Data provided by Digital Surgeons, www.digitalsurgeons.com*