

Social Networking in Higher Education – Good Practices and a Case Study from Bulgarian Universities

Aneliya Ivanova, Vanya Stoykova, Galina Ivanova

Abstract: *One of the challenges to higher education nowadays is to adapt to the learning style, preferences and demands of the Digital generation. To achieve this goal, the educational process should extend beyond the university auditorium and to find a place in the social network where the digital students are most active. The modern ICT should also become an integral part of the administrative and educational activities at the University.*

In this paper is discussed the role of social networking in higher education, as well as the possibilities for teaching and learning in social WEB. A survey about students' attitudes to the use of social networks and cloud computing in higher education is conducted and an analysis of the survey results is also provided.

Key words: *generation F, higher education, social network, social network group, teaching strategy, cloud computing.*

INTRODUCTION

The enormous growth of ICT is one of the primary causes for evolution of the learning style of current students. Equipped with mobile devices, they are almost non-stop connected to the social network. It comes naturally to them to search information and resources related to their education primarily there – where everything important to them happens. The impact of social networks on educational process in higher education is discussed by various authors [2, 3, 5, 8, 9].

In this paper is considered the role of social networks in educational process at the University. Some good practices are discussed and an analysis of a survey results is presented. The survey is carried out with students from several Bulgarian universities and examines their attitude to the use of social networks and cloud computing as supporting medium in higher education.

THE SOCIAL NETWORK AND HIGHER EDUCATION

There is hardly any lecturer who does not asking himself: what makes the students spend almost all of their spare time in the social network? It is not coincidentally that the term “Facebook generation” or “Generation F” has appeared [5].

When it comes to teaching the students from Generation F, the primary challenge is to get and keep students' attention as well as to arouse an interest in the subject being taught. Even when the communication is face-to-face, this challenge becomes a tough fight with the social network that is constantly reminding itself. More difficult is the task to keep the students' interest until the next class. Another challenge is keeping effective communication and timely providing easy access to digital learning resources.

At the time when the social network became a significant phenomenon, it became clear that the first generation of e-Learning systems would not work effectively anymore. At this point the lecturer was confronted by the dilemma: whether to keep using the well-known e-Learning system for communication and providing learning resources or to put to work the distracting factor (the social network) as a tool supporting the teaching process?

At this stage there is no doubt that the social network should not be underestimated, on the contrary – if the lecturer wants to be heard and noticed by his students, he should find them namely there – at the place where they are most motivated and active and to challenge them not only to entertain themselves, but to learn socially without breaking the connection.

When we consider the role of social network in higher education, we should take into account that the students create social communities at different levels there: student group, degree course, faculty, university and the most appropriate way to establish an effective contact with them is to use the features and tools provided by the social network.

Within the closed social groups the students communicate by means of private or group messages, share learning resources, course projects, information about the organization of educational process, each group member feels free to ask questions, to ask for help and knows that he will get a response as soon as possible. If the lecturer wants to keep students' attention and interest, he should enter into their social world and to remind them for the subject being taught, at the same time getting an instant feedback by the notification tools of the social network and being aware about the students' reaction on each one of his posts

Quite similar is the mission of the faculty administration that should also find its place at the social groups, to contact the students, to answer questions, to post messages that are more likely to be instantly read in the social group, than at the university WEB site.

And last but not least – the social network is a powerful tool for promoting the university and its departments and tracking out their popularity.

The use of social networking in higher education transforms the learning context by providing a variety of possibilities for content and resource sharing, guided learning, collaborative learning, ubiquitous learning and lifelong learning [4, 6, 7]. The new educational paradigms are very likely to be focused to Web 3.0 и Web 4.0 future technologies, related to artificial intelligence, semantic webs, WEB operating system, cloud computing and cloud intelligence.

GOOD PRACTICES OF SOCIAL NETWORKING IN EDUCATIONAL PROCESS

The easiest way for the lecturer to enter into the social community of his students is to create a social network group dedicated to the course he teaches.

Leaving aside the instant communication and the possibility to upload learning resources, the lecturer has at his disposal several useful tools in the social network: at first the possibility to track out the group members' activity, further – to get immediate feedback about their reaction to a post, and finally to post immediate answer to questions, asked by the students. Another powerful feature is the polling tool that allows not only to get a notion about students' opinion on a problem, casus or suggestion related to the matter of the course but also to post test questions. Below is shared the experience of lecturers from the University of Ruse in their attempt to transfer the teaching to the social network.

Since 2014 have been created closed Facebook groups on the courses "Computer Organization", "Software Engineering" and "Modern Computer Technologies" from Bachelor curricula on Computer Systems and Technologies degree course. All the three courses have WEB based versions at the university e-Learning platform, but by the lecturers' observations, the students' activity in the e-Learning platform is very poor. The lectures and practical labs are held weekly and the main purpose of the created social groups was to keep the interest and motivation of the students between face-to-face classes, as well as to establish a daily communication with them.

In "Computer organization" group the following teaching strategies have been implemented:

- After each lecture or lab a video recorded by an interactive presentation system during the class is shared with the group;
- A competition "Daily assignment" is announced. Every day, at preliminarily announced time, a task is posted in the group. The tasks are related to the topic of the week. The students send their solutions in private messages to the lecturer. The first three students, who have sent correct solutions, get bonus points that have impact on the final course grade and their solutions are posted in the group. The most useful in this competition is that the students have opportunity to ask questions via private messages while solving the tasks, and after posting the solutions, a discussion is open so that all of the group members to get an idea how to solve this type of tasks;
- Each time a student asks for advice and help about the course assignment, control

works, and preparation for the exam, he is immediately consulted in the group, so that all the students get access to the instructions provided by the lecturer;

- Various polls have been generated in order to get students' opinion on the quality of the teaching process and on the basis of the results have been taken decisions about improving the course organization.

In "Software Engineering" and "Modern Computer Technologies" groups the teaching approach was as follows:

- Each week after the lecture classes the lecture presentation and demonstrative resources are posted in the group. On each course topic the students are asked to share additional useful resources related to the topic or their opinion and reflection. This way the students develop their skills to search, analyze and select the appropriate resources and become authors of learning content;
- Various events are created and shared in the group – e.g. for lectures, labs, exams, meetings with companies from the professional branch of the degree course, faculty events, etc. By tracking the students' reaction to an event, the lecturer makes conclusions about their interest in it.
- The students develop weekly projects and share them in the group. The group members review the projects of their colleagues, post comments, suggestions and finally give a rate of each project (like or not). Each week a top 10 rating is posted in the group. This initiative has significantly raised the motivation of the students and they are giving their best to develop better their weekly projects and move up in the rating.
- To develop their course projects on Software engineering course, the students are separated in small teams. Each time has the assignment to establish a virtual software company and to develop a software project having preliminary specified virtual budge. Each team distributes the basic occupations in the team: leader, analyst, designer, programmer, tester and posts regularly the current achievements of the enterprise. The group members give their rate, make suggestions and share opinions. Some funny competitions have been announced – e.g. "The most smiling team". This way the students start perceiving the course social group not only as a learning activity, but also as a place for fun and this makes them more active and motivated in the group.
- The students are continuously consulted through private and group chat messages.

The discussed above initiatives have helped the lecturers to establish a better connection with their students and to get immediate impression about their attitude to the courses on the whole, the learning resources, the assignments, the teaching strategies, etc.

STUDY OF THE WILLINGNESS TO USE SOCIAL NETWORKS AND CLOUD TECHNOLOGIES IN THE HIGHER EDUCATION

a. Goal of the study

The goal of the study is to investigate the willingness of students to utilize cloud technologies and social networks during their studies at university.

b. Research methodology

Target group:

The study was conducted among 181 students at the Trakia University of Stara Zagora, Faculty of Technics and Technologies in Yambol, the "Angel Kanchev" University of Ruse and the University of National and World Economy. The students inquired during the two consecutive school years are distributed as follows: in 2013/2014 - 144 students; in 2014/2015 - 37 students.

According to their profile, the respondents can be grouped together as follows: sex -

61 male and 120 female; age group - born before 1965 - 3; between 1965 and 1991 - 70 students and after 1991 - 108 students; degree course: "Information and Communications Technology in Education" and "Information and Communications Technology in Business and Public Administration" – 4 students; "Automatics and Computer Systems" and "Automation, Information and Controlling Equipment" – 68 students; "Electrical engineering" – 41 students; "Design, Technology and Management of the Fashion Industry" – 9 students; "Auto Transport and Agriculture Technique" – 20; "Heat and gas supply" – 10; "Computer Systems and Technologies" and "Telecommunications equipment" – 22 students; University of National and World Economy (various degree courses) – 7 students; year of studies - first – 78; second – 96; third year – 3; fourth year – 4 students

Time period and tools utilized in the study

The study was conducted during the school years 2013/2014 and 2014/2015. The participants were provided with questionnaires on paper or a web-based survey, containing 4 types of questions, related to the goals and objectives of the study. The questions are closed-ended and semi-open ended, of the multiple choice type or choice of a response based on the nominal scale (possible answers "No", "No, but I intend to use them/register" and "Yes"). The questions are classified into two groups in accordance with the goals and objectives of the study.

All answers of the respondents have been coded and entered in a file (.xlsx) in an appropriate format for the following statistical processing using MS Excel or the "Statistica" programming medium for statistics and analysis.

Criteria and indicators for assessment of the results

In the processing and analysis of the results were used the following methods: frequency analysis (univariate and bivariate frequency distribution), descriptive analysis, Chi-square test for hypothesis testing.

Hypotheses

The following hypotheses were tested:

- 1) No dependence or correlation exists between the age group of the interviewed students and their willingness to use the social networks for their higher education needs.
- 2) No dependence exists between the profile parameters of the surveyed students (age group, study year, degree course) and their willingness to utilize cloud technologies.

c. Analysis of the results obtained

The univariate distribution of the response frequencies to the questions, related to the application of social networks in the academic process at universities is represented on fig. 1 and fig. 2. During the survey, the students responded to two questions: "Do you have a profile in Facebook or another social network?" (fig. 1) and "Do you use social networks to meet your educational needs?" (fig. 2). The summarized data from the two academic years shows that highest is the percentage of the students, who have a Facebook profile and use it for the purpose of their education at the university.

The bivariate frequency distribution of the responses to the two questions shows, that largest is the number of the students, who have a Facebook profile and are using it or are willing to use it to meet their educational needs - 142 students (87,12 % of all people, who have a profile in the social networks). The last conclusion only supports the results of other studies, conducted at universities in our country and abroad [1, 9].

The relative share of the students, who are using cloud technologies (CT) is illustrated on fig. 3. Still CT are not used enough by the students and respectively the largest percentage (50,60%) is of those, who do not utilize cloud technologies. Clouds, whose services the respondents use are: Skydrive, Dox, Dropbox, Google Drive, Comodo Cloud, Mega, iCloud (Apple), One drive, Oblak.bg, Soundcloud.

On fig. 4 is shown the univariate frequency distribution of the students' responses regarding the use of cloud technologies. This type of question is multiple-choice and the

percentages have been calculated according to the number of students who responded. Almost 50% of the students use CT in order to have access to their resources at any time and from any place and over 40 % are willing to use them for their educational needs.

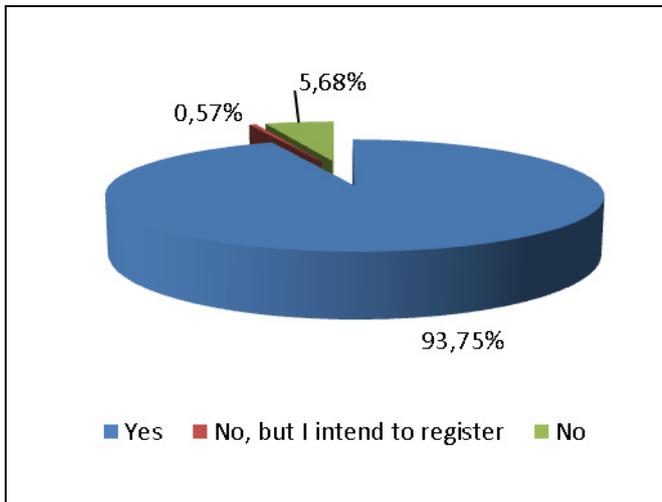


Fig. 1. Relative share of the students, who have a Facebook profile

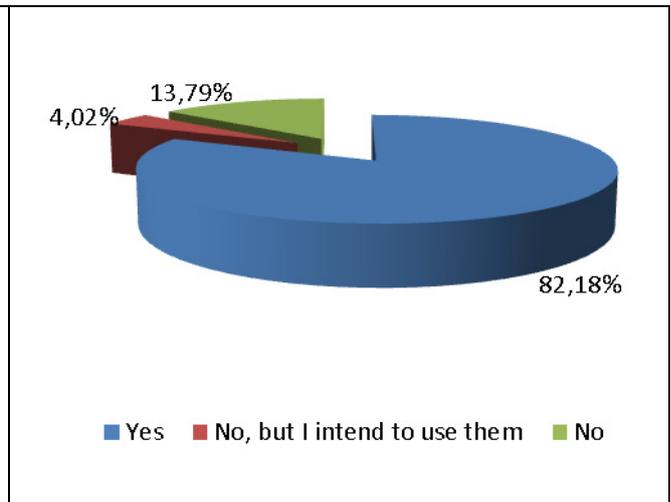


Fig. 2. Relative share of those, using Facebook for the purposes of their higher education

From the descriptive analysis of the results was established that the mode has a value of 1 (Frequency of Mode 143), corresponding to the answer "Yes" regarding the use of Facebook for the purposes of education and modal value of 0 (Frequency of Mode 85), corresponding to the answer "No" in regard to the use of cloud technologies by the students, which supports the results of the frequency analysis.

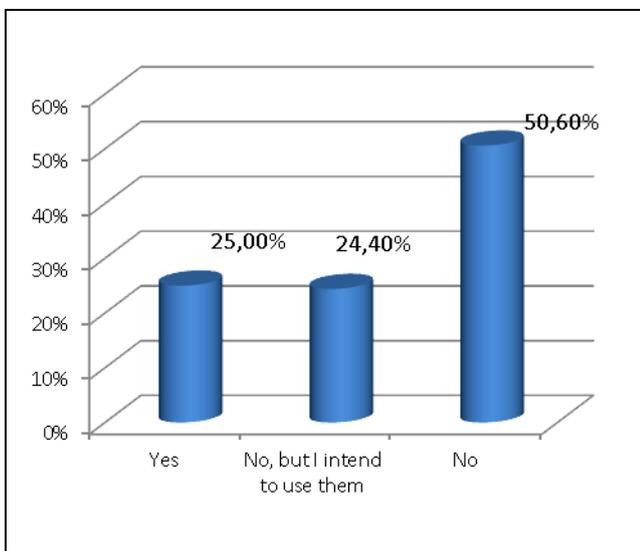


Fig. 3. Relative share of the students using cloud services

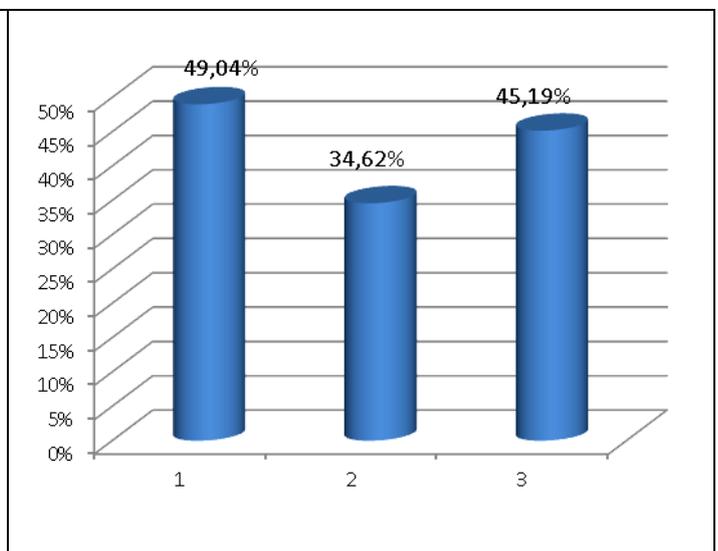


Fig. 4. Relative share of the students using cloud services for the purpose of: 1 - To have access to their resources at any time and from any place; 2 - For sharing and collaborative working on files (for a project/assignment) with colleagues or friends; 3 - I am willing to use them as well for my educational needs at the university.

Over 80% of the students from both age groups (due to the small number of students in the first group, they have been combined with the second age group) are willing to use

social networks for the purposes of their education. The testing of the stated above hypothesis with Pearson's chi-square test confirms the null hypothesis (H_0) - no correlation exists between the parameter age and the willingness of the students to use Facebook in the study process as well, i.e. there is no significant difference between the responses of the students from the two age groups. By analogy, during the testing of the hypotheses for an existing correlation between the profile parameters of the surveyed students (age group, study year, degree course) and their willingness to use cloud technology, no dependence has been established²⁴.

CONCLUSIONS

The social networks are widely used by the current students and about 80-90% of the inquired students declare they use or are ready to use the social network for learning activities. The students from Generation F are constantly connected with the social networks and their incorporation in higher education will respond to students' demands for immediate and continuous feedback, interactivity, content sharing as well as teaching and learning outside the auditorium. The experience of the lecturers who use the social network as a medium supporting the teaching process shows that the students demonstrate more willingness to participate in this process in the social network than in the classroom, since in the social network they feel free to express themselves, to share opinions, suggestions, to give a rate, etc.

The survey results point out that the cloud services are still not enough used by the students. About 50% of the inquired students use cloud services and only 45,19% use them in educational process. These results are not surprising because when it comes to sharing and hosting a resource, the primary reaction of the students is to do this in the social network.

REFERENCES

- [1] Angelova, N., L. Jordanova. Using a video materials for e-learning and networks for sharing of studies resources, Collection of papers of Fifth national conference of E-learning in the higher education, Rouse, 2014, pp. 139-145.
- [2] Ellison N., C. Steinfield, C.f Lampe. The Benefits of Facebook "Friends:" Social Capital and College Students' Use of Online Social Network Sites. *Journal of Computer-Mediated Communication* 12, 2007, pp. 1143–1168. [on-line resource] <http://onlinelibrary.wiley.com/doi/10.1111/j.1083-6101.2007.00367.x/pdf>
- [3] Miltenov P. and co-workers. Social networks in the education. [on-line resource] <http://bibliosphere.eu/?p=1308>
- [4] Pedagogics of Web 2.0, European resource Centre, [on-line resource], <http://www.web20erc.eu/sites/default/files/Pedagogy2.0-BG.pdf>
- [5] Pejcheva- Forsythe, R., J. Sarieva. Introducing of Web 2.0 technologies in the higher education: myths, reality, considerations. In: Forth national conference of e-learning in the higher education, Svishtov, Academic press „Tzenov“, 2012, pp. 237, ISBN 978-954-23-0747-1.
- [6] Ramaley, J., L. Zia. The real versus the possible: Closing the gaps in engagement and learning. In Oblinger D. C., J. L. Oblinger (Eds.), *Educating the net generation*, 2005, Retrieved November 14, 2006, from <http://www.educause.edu>.
- [7] Ravenscroft, A. Social software, Web 2.0 and learning: status and implications of an evolving paradigm. // *Journal of Computer Assisted Learning*, 2009, Vol. 25, pp. 1-5.
- [8] Saev, S. From Web 2.0 toward electronic education 2.0. Electronic, distance or education of the 21 century. Collection of papers International conference, Sofia, Bulgaria, 2011, pp. 100-110.

²⁴ During the hypothesis testing, the responses "yes" and "no, but I intend to use them" have been combined.

[9] <http://www.businessesgrow.com/2011/07/27/blogging-social-media-use-skyrocketing-at-universities/>

ABOUT THE AUTHORS

Assoc. Prof. Aneliya Ivanova, PhD, Department of Computing, University of Ruse,
Phone: +359 82 888 827, E-mail: aivanova@ecs.uni-ruse.bg

Principal Assist. Vanya Stoykova, PhD, Trakia university of Stara Zagora, Faculty of
Technics and Technologies of Yambol, Bulgaria, Phone: +359 889 740 755, E-mail:
vdstoykova@gmail.com

Assoc. Prof. Galina Ivanova, PhD, Department of Computing, University of Ruse,
Phone: +359 82 888 827, E-mail: givanova@ecs.uni-ruse.bg

The paper has been reviewed.