

Learning tools offered by online social networks – a qualitative approach

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Abstract. The teaching-learning processes have evolved, transformed, adapted and took into account the changes in the society. One of the major implications of this is the expanding of the context of a classroom. In present, this is no longer the only place where teaching and learning processes take place. At the same time, there has been an exponential increase in the use of online social networks by learners of all ages. Online social networks allow users to access diverse educational resources and demonstrate their ability to share information in an efficient and flexible way. The objective of this paper is to analyze, from a qualitative perspective, the main educational advantages and disadvantages of the use of discussion groups by university students. The results show that the advantages of using learning instruments offered by online social networks are in line with the didactic and social learning facilities characteristics of OSNs, while the disadvantages refer to the learning and formation facilities characteristics.

Keywords: Facebook, online social networks, learning activities, learning instruments, qualitative approach

1. Introduction

The widespread use of social networks to support and facilitate educational activities is a relatively new phenomenon, but with significant potential, which has implications for teaching and learning in university education and teacher training for the 21st century. Online social networks (OSN) are communication technologies that facilitate interaction and networking between teachers, students and parents, and also content creation both in and outside the classroom.

Online social networks allow users to find the information and courses they need on the search engines they offer. To enhance the quality of distance education training, technology can be used in many ways, but the key is to find a balance between benefits and costs. Social networking sites have

demonstrated their ability to transmit information in a cost-effective and flexible manner.

Online social networks are web-based services that enable individuals to build a public or semi-public profile in a limited system, create a list of users with whom they share a connection, view the list of connections as well as those created by others within the system (Boyd and Ellison, 2007). Various social sites are used for educational activities: from those addressed to the general public (e.g. Facebook, LinkedIn, Google+) to sites dedicated to researchers (e.g. ResearchGate, Academia.edu, VIVO).

The use of OSNs can lead to the development of users' habits. Learning apps and pedagogical methods based on these habits can help create a bridge between formal and informal learning by placing social teaching opportunities in the online context of students and by developing mutual interactions between colleagues on both curricular subjects, and extra-curricular.

The objective of this paper is to present a qualitative study on the use of facilitation instruments used in learning activities offered by online social networks.

The qualitative study focused on the data collected from a sample of university students that evaluated the online social networks by providing advantages and disadvantages of the facilitation instruments used in learning activities.

The rest of this paper is structured as follows. The next section presents the theoretical grounding. Section 3 and 4 present the methodological approach and results of the qualitative evaluation. The last section deals with a brief discussion and conclusion.

2. Theoretical grounding

In recent years, more and more studies have addressed the issue of links between traditional learning and learning through social networks (Iordache & Pătru, 2016; Glusac et al, 2014; Mao, 2014; Iordache, 2014; Lantz-Andersson, Vigmo and Bowen, 2013).

In Romania, Iordache & Pătru (2016) conducted a qualitative study in order to identify educational and social aspects related to the use of Facebook by visually impaired people as well as positive aspects and risks of using this social network. An interview guide has been developed for this purpose and

a total of 24 visually impaired students from the Special School "Sfânta Maria" in Arad participated in the study. A content analysis has been used in order to analyze the answers. The results show that most of the visually impaired students participating in this study are using Facebook especially for socialization and less for educational purposes. Also, the main benefits of using Facebook were communication and keeping relationships with friends. The main risks were related to the privacy/security settings and advertising affecting navigation.

The study of Hamid et al. (2015) focuses on students' experiences when using OSN for student-student and student-lecturer interactions. A total of nine focus group discussions with 46 students were held in Malaysian and Australian universities. A thematic analysis revealed that students identified a number of positive outcomes from using OSN to interact with each other and with their lecturers.

Khan, Wohn, and Ellison (2014) interviewed 690 high-school students in the United States about Internet access outside of school hours, internet usage skills, and Facebook use of demographic factors such as academic degrees and gender. The authors have identified several factors related to the use of Facebook for academic collaboration. Among the factors considered relevant to using Facebook in academic collaboration (grades, internet use abilities and instrumental support), the best predictor was the ability to get help from friends. This result indicates the role of Facebook's informational resource. The authors concluded that the help available in their own network mobilizes users to collaborate through Facebook in school themes and to seek help when they have problems in solving tasks.

Glusac et al. (2014) used a sample of 318 Serbian young people aged 14-18. The authors found that the more students spent more time using social networking sites and similar technologies, the more they wanted to use these tools in their learning environment, especially to view difficult materials.

Lantz-Andersson, Vigmo and Bowen (2013) have shown that Facebook helps extend learning English. Based on data collected from a Facebook group of 60 students from Colombia, Finland, Sweden and Taiwan, the authors identified collaborative language learning activities. Students in these Facebook groups combined formal language learning in schools and language use in day-to-day communication when using social media.

Fewkes and McCabe (2012) have quantitatively and qualitatively explored how a sample of high school students from Ontario used Facebook as soon as

it became available in their school. The authors also examined whether and how students use Facebook, and also whether there is any similarity between the way students use Facebook and the traditional style of learning. By collecting quantitative and qualitative data through a questionnaire, from 63 high school students, researchers found that most of the respondents (73%) believed that Facebook might be beneficial for education. In addition, three-quarters of students used Facebook for educational purposes, such as classroom communication, group collaboration, receiving reminders and important teacher updates, self-organizing, and getting help with homework. However, only 27% of the students reported that a teacher had integrated this social network into teaching, and most students believed that teachers wanted Facebook to be banned from school. Thus, researchers have found inconsistencies between the views of school councils on the use of social media in classrooms and the reality that most teachers do not effectively integrate this technology into their lessons.

Bosch (2009) conducted a study that explores student use of Facebook at the University of Cape Town, as well as lecturer engagement with students via online social networks. Using qualitative interviews, the study shows that while there are potential positive benefits to using Facebook in teaching and learning, particularly for the development of educational micro-communities, certain challenges, including ICT literacy and uneven access, remain pertinent.

Subrahmanyam et al. (2006), Šmahel and Subrahmanyam (2007) have conducted studies that dealt with online teen chat rooms and analyzed 12.000 utterances from 1100 participants and found that identity presentation and partner selection were the most frequent kinds of utterances used in the chat rooms.

Other qualitative studies showed that American as well as Austrian teenagers used online chat rooms for the development of their gender and ethnic identity (Waechter, 2005, 2006).

Similar adolescent developmental issues were identified in a study by Subrahmanyam et al. (2009), in which a qualitative approach was used to evaluate weblogs that were written by adolescents. Adolescent bloggers adopted usernames and userpictures for self-presentation and used their blog entries for self-disclosure about their peers and everyday life.

3. Methodological approach

3.1 Instrument and procedure

In order to evaluate the use of discussion groups by students, a three-section evaluation tool has been developed. The analysis of the use of training facilities by students corresponds to the third section of the evaluation instrument. This section includes the content analysis of the benefits and disadvantages of using social networks and tools to facilitate training in theoretical and practical activities of study programs.

The interpretation of responses to open questions regarding the advantages and disadvantages of using social networks and tools to facilitate training in theoretical and practical activities related to study programs has been achieved through the use of content analysis of communication. In this regard, the basic rule of this technique is to reduce the entire content of the communication (for example, all words or all visual images) to a set of categories with certain characteristics of interest to the research.

Also, the content analysis technique involves determining the recording, context and counting units. The recording unit is that part of the communication that has to be characterized and inserted into one of the categories of the analysis scheme and varies according to the object of the research and the depth level of the analysis. The context unit is that segment of the communication that allows you to see whether the recording unit has a positive, negative or neutral orientation. The size of the context unit is conditioned by the size of the recording unit, being larger or at least equal to it. The counting unit has a quantification function. It may be identical to the recording unit, but in most cases, counting units with obvious physical characteristics are preferred (Chelcea, 2001).

Thus, through the content analysis, we have obtained: (1) the analysis of the frequencies of the advantages and disadvantages of using social networks and tools for facilitating training within the theoretical and practical activities related to study programs, namely: determining the number of occurrences of the advantages and disadvantages in the system of analysis categories; (2) determining the main categories related to the advantages and disadvantages identified by students in using social networks and tools to facilitate training in the theoretical and practical activities related to study programs.

3.2 Sample

The questionnaires were examined for completeness. After removing incomplete or erroneous data resulted a sample of 302 observations (117 males and 185 females). The age of the participants is between 18 and 57 years with an average of 24.68 years. From the point of view of the study program, 281 (93%) are undergraduate and 21 master students.

4. Results

4.1 Synthesis of main categories of advantages

The analysis of the advantages mentioned by students led to constructing main categories of advantages for facilitation learning tools offered by online social networks. Thus, Table 1 indicates these categories:

Table 1. Main categories of advantage for using learning tools

Category	Frequency
Communication	130
Fast way of sending information	99
Easy to access	84
Interaction	64
Development	63
Facilitation	21
Cooperation	19
Access to information	18
Mean of information	10

Furthermore, a short presentation of each category will be made, followed by short statements of students indicating the advantages of using the facilitation learning tools offered by online social networks.

The *communication category* is made of the following subcategories: effective communication, information communication, communication among students, communication among students and professors, remote communication, professor-student communication, fast way to communicate information. Students mentioned the following advantages of facilitation tools in learning activities: "it leads to a better communication, it helps finding out new information, we inform each other, effective and quick

communication regarding homework, easy communication between participants, it eases the communication with the professor and the colleagues, it enables cooperation, interaction and development among students, it eases the communication among students, etc."

The *fast way of sending information category* consists of the following subcategories: rapidity, fast access to information, fast way of sending information, sending information. The most common statements that students provided regarding this category are: "fast way to send information, share educational content, social networks facilitate sending homework among students, creating a closed group in which useful information is posted, sending projects to professors, fast way to send and receive information, fast way to send homework".

Easy to access category includes the following subcategories: easy to access, easy to display ideas, easy to understand, easy to learn, easy to memorize, easy to navigate, easy to obtain, easy to recover information, easy to remember information, easy to send information, easy and fast. In this case, the students identified the following advantages: "it accelerates the access to some information, facilitates the communication and understanding of content, a better understanding of knowledge, easy to memorize, immediate information accessibility".

The *interaction category* sums up the following subcategories of advantages: colleagues-professors interaction, direct member interaction, interaction with persons from the same domain, interaction among colleagues, professor-student interaction, student-professor-student interaction. The most common statements in this case referred to the following advantages: "the interaction with the professor is easier and faster, it helps interacting with people and choose what is best, it stimulates interaction, it enables the relationships among members of social groups, social networks help you to socialize with your colleagues and receive information regarding the courses and projects".

The *development category* is made of the following subcategories: memory development, computer-based abilities development, attention development, development as educator, develops your qualities, collaborative development, competences development, cognitive abilities development, communication development, knowledge development, skills development, develops thinking. Thus, students mention the following advantages of learning tools: "it helps enrich the knowledge, it helps the

development from the communication perspective, it stimulates the collaborative learning, it develops the cognitive, metacognitive and social abilities, it helps the professional development through the opinions shared on personal blogs".

The *facilitation category* gathers the following subcategories: communication facility, information facility, learning facility, homework facility. In this case, the students pointed out the following advantages of the learning instruments provided by the online social networks: "it facilitates learning and the development of thinking, it facilitates writing the homework, it facilitates receiving the homework by students, it facilitates sending the projects, it facilitates communication".

The *collaboration category* refers to collaboration among students, student-professor collaboration, collaboration with colleagues, collaboration with professors, group collaboration. In this regard, the students mentioned the following advantages: "collaboration among students and professors, it facilitates the group collaboration, collaboration with professors, collaboration among students".

The *access to information category* includes access to information, access to notes, unlimited access, fast access, information accessibility, accommodation with technology. The students mentioned the following advantages: "access to notes, we can learn from home, access to information, fast access to information, unlimited access to information".

The *mean of information category* includes the following subcategories: information, information in real time, fast information. The students mentioned the following advantages: "information regarding some concepts, wide range of information, the information is learnt faster and easier, information in a short period of time, continuous information".

Figure 1 presents the distribution (in percentage) of the main categories of advantages regarding the learning facilitation tools provided by the online social networks.

Most part of the categories of advantages of using learning tools offered by online social networks show that they facilitate communication, rapidity in sending information, access to content, interaction, development, access to information, collaboration and information. The statements that underline the didactic facilities, social learning facilities and the formation facilities had the highest percentage regarding the use of online social networks.

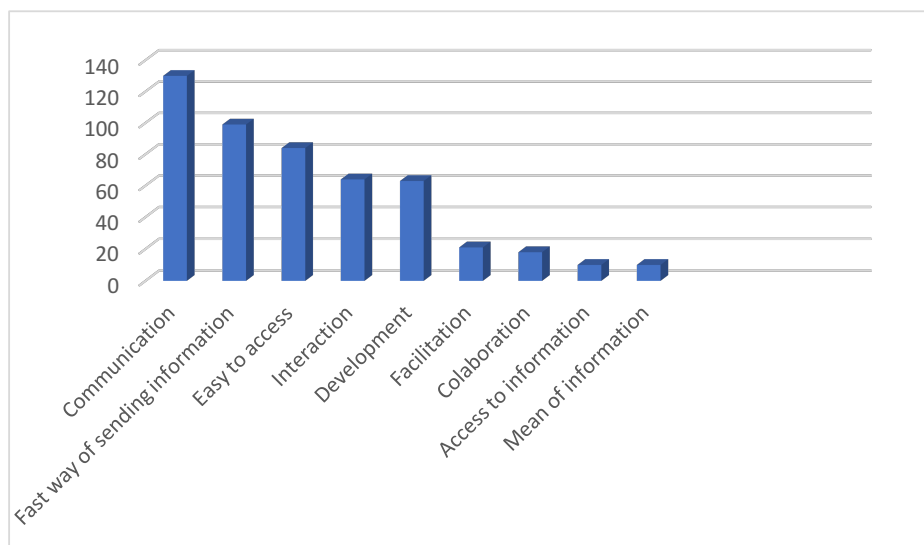


Figure 1 Main categories of advantages (in percentages)

4.2 Synthesis of main categories of disadvantages

The analysis of the disadvantages mentioned by students led to constructing main categories of disadvantages concerning facilitation learning tools offered by online social networks. Thus, Table 2 indicates the following categories:

Furthermore, a short presentation of each category will be made, followed by short statements of students indicating the disadvantages of using the facilitation tools offered by online social networks.

The *sending wrong information category* includes the following subcategories: wrong information and lack of rightness of information. In this respect, the students mentioned the following disadvantages of using learning tools provided by online social networks: "some information is not verified; a lot of information that is not correct and can confuse students, sharing wrong information".

The *lack of face-to-face interaction category* refers to the following subcategories: lack of communication, lack of communication among students, lack of face-to-face communication, lack of collaboration, lack of synchronous communication, lack of student-professor communication. The students stated the following: "it limits the interaction in the real environment, lack of face-to-face communication, lack of communication, lack of physical

interaction among students and time spent in libraries, lack of real socialization, reduction of face-to-face interaction".

Regarding the *dependence category* the students have mentioned that the learning tools provided by online social networks produce dependence over time.

Table 2. Main categories of disadvantages for using learning tools

Categories	Frequency
Sending wrong information	45
Lack of face-to-face interaction	27
Dependence	20
Lack of access to OSN	20
Wasted time	20
Categories	Frequency
Lack of school performance	13
Lack of personal development	12
Hard to access (content)	9
Plagiarism	9
Misunderstood information	6
Sedentariness	6
Lack of thematic consensus	6

The *lack of access to OSN category* includes the following identified subcategories: lack of access to internet and lack of access to OSN. Among the most common answers given by students we mention: "in some parts of the country the internet connection is weak, OSN can't be used without a connection to the internet, not everybody has access to these resources, some students may not have access to OSNs".

Regarding the *wasted time category* students mentioned the following disadvantages as being the most important: "the time is wasted on OSNs with other activities that are not related to what we have to do".

In the *lack of school performances category* students mentioned the following: "school performances are not reached, it does not help you to have better school performances, students do not obtain better school performances".

The *lack of personal development category* includes the following subcategories of disadvantages: lack of development as educator, lack of competence development, lack of knowledge development, lack of social

skills development, lack of thinking development. In this regard, students stated the following: "it does not facilitate the student formation and development, the formation of the future educator is not acquired, the lack of social skills, it does not develop metacognitive competences".

In the *hard to access (content)* category students mentioned the following: "you are at the disposal of your friends in what regards the content of the courses, not being able to access the content whenever you want, the content is hard to access".

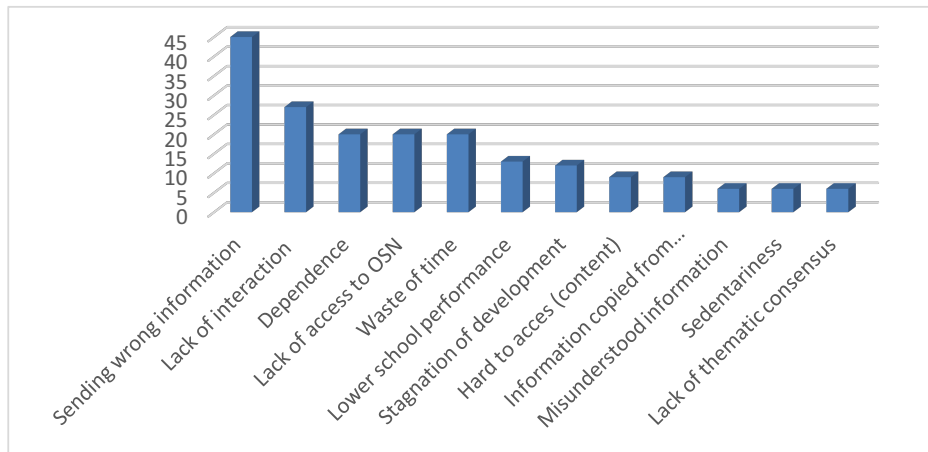
In the *plagiarism category*, students mentioned the following aspects: "the risk of plagiarism, information theft, plagiarism, some students tend to steal others' ideas instead of writing their own opinions, the tendency to copy information from others or from somewhere else".

In the *misunderstood information category*, the respondents pointed out the following disadvantages: "it leads to misunderstanding the information, leads to misunderstanding the message".

The last two categories of disadvantages are: *sedentariness* and *lack of thematic consensus*. In the last category, the disadvantages mentioned by students are: "leads to fighting about the content of the seminars, in the end there is no thematic consensus".

Figure 2 presents the distribution (in percentage) of the main categories of disadvantages regarding the learning facilitation tools provided by the online social networks.

Figure 2 Main categories of advantages (in percentages)



Most part of the categories of disadvantages of using learning tools provided by online social networks were linked to sending wrong information, lack of face-to-face interaction, dependence, lack of school performances, content that is hard to access, information copied from somewhere else, sedentariness. Thus, these categories underline disadvantages regarding social learning facilities and the formation facilities.

5. Discussion and conclusion

This work has several implications for researchers and practitioners. First, it contributes to a better understanding of the reasons why Romanian university students are using online social networks from an educational perspective.

Second, this paper analyzes - from a qualitative perspective - the answers of 302 students regarding the advantages and disadvantages of using instruments provided by OSNs that facilitate the learning activity. The analysis shows that: (1) most part of the advantage categories identified underline that learning tools used in learning activities facilitate communication, sending information, content accessibility, interaction, development, access to information, collaboration. These results registered the highest frequencies and are in line with the didactic and social learning facilities characteristics of online social networks; (2) Most part of the disadvantages identified in the case of learning tools used in learning activities are linked to sending wrong information, lack of face-to-face interaction, dependence, lack of performances, lack of access to OSNs, lack of personal development, plagiarism, sedentariness. These results registered the highest frequencies and are in line with social learning and formation facilities characteristics of online social networks.

Third, these findings contribute to enlarging the number of qualitative studies that explore the online social networks from an educational perspective.

There are inherent limitations of the study. The exploration is limited to the research framework, i.e. group discussion usage related to the university context. As such, it does not include entertainment related reasons. Also, the sample is relatively small. To achieve a deeper understanding of the reasons of using the facilitation instruments from an educational perspective, larger

samples are needed.

Next studies will focus on the invariance analysis of the use of facilitation tools offered by online social networks, and also on cross-country analysis.

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References

- Bosch, T.E. (2009). Using online social networking for teaching and learning: Facebook use at the University of Cape Town. *Communicatio: South African Journal for Communication Theory and Research*, 35 (2), pp. 185-200.
- Boyd, D. M. & Ellison, N. B. (2007). Social network sites: Definition, history, and scholarship. *Journal of Computer-Mediated Communication*, 13(1), article 11. <http://jcmc.indiana.edu/vol13/issue1/boyd.ellison.html>.
- Brown, B. (2004). Adolescents' relationships with peers. In R. M. Lerner & L. Steinberg (Eds.). *Handbook of adolescent psychology* (pp. 363–394). 2nd edition New York: Wiley.
- Chelcea, S. (2001). *Metodologia cercetării sociologice*. București: Editura Economică.
- Fewkes, A. M., & McCabe, M. (2012). Facebook: Learning tool or distraction? *Journal of Digital Learning in Teacher Education*, 28(3), pp. 92-98.
- Glusac et al. (2014). Adolescents' informal computer usage and their expectations of ICT in teaching—case study: Serbia. *Computers & Education*, 81, pp. 133-142.
- Hamid, S., Waycott, J., Kurnia, S., Chang S. Understanding students' perceptions of the benefits of online social networking use for teaching and learning. *The Internet and Higher Education*, 26 (2015), pp. 1-9
- Iordache, D. (2014) Caracteristici ale utilizării Facebook de către studenți – o abordare calitativă. Popovici D.M., Iordache D.D. (Ed.) *Conferința Natională de Interacțiune Om-Calculator - RoCHI 2014*. MatrixROM, 91-94.
- Iordache, D. D., Patru, A. (2016). Facebook use by visually impaired students. *International Scientific Conference eLearning and Software for Education - eLSE 2016* (Vol. 2, p. 522). "Carol I" National Defense University.
- Khan, M.L., Wohn, D. Y. & Ellison, N. B. (2014). Actual friends matter: An internet skills perspective on teens' informal academic collaboration on Facebook. *Computers & Education*. 79, pp. 138-147.
- Lantz-Andersson, A., Vigmo, S., & Bowen, R. (2013). Crossing boundaries in Facebook: Students' framing of language learning activities as extended spaces. *International Journal of Computer-Supported Collaborative Learning*, 8 (3), pp. 293-312.

- Mao, J. (2014). Social media for learning: A mixed methods study on high school students' technology affordances and perspectives. *Computers in Human Behavior*, 33, pp. 213-223.
- Šmahel, D., & Subrahmanyam, K. (2007). Any girls want to chat press 911: Partner selection in monitored and unmonitored teen chat rooms. *Cyberpsychology & Behavior*, 10, 346-353.
- Subrahmanyam, K., Garcia, E., Harsono, L.S., Li, J.S., Lipana, L. (2009). In their words: Connecting on-line weblogs to developmental processes. *British Journal of Developmental Psychology* 27 (1), 219-245.
- Subrahmanyam, K., Šmahel, D., & Greenfield, P. M. (2006). Connecting developmental processes to the Internet: Identity presentation and sexual exploration in online teen chatrooms. *Developmental Psychology*, 42, 1-12.
- Waechter, N. (2005). Doing gender & doing ethnicity bei Jugendlichen in Chatrooms. Kann das neue Medium zur Verringerung von sozialer Ungleichheit beitragen? *Zeitschrift für Frauenforschung und Geschlechterstudien*, 3, 157-172.
- Waechter, N. (2006). Chat rooms and girls' empowerment. In L. R. Sherrod C. A. Flanagan & R. Kassimir (Eds.), *Youth activism: An international encyclopaedia*, vol. 1, pp. 109-113. Westport, CT/ London: Greenwood Press.
- Weinstein, E., & Rosen, E. (1991). The development of adolescent sexual intimacy: Implications for counseling. *Adolescence*, 26, 331-339.