

ERPA 2014

E-learning in the evaluation of students and teachers: LMS or social networks?

Galina Mozhaeva^a, Artem Feshchenko^{a*}, Ivan Kulikov^a

^a*Tomsk State University, Lenin Avenue 36, Tomsk 634050, Russian Federation*

Abstract

In modern education the important place is taken by the e-learning, which development substantially is defined by the evolution of technologies. Modern e-learning passed from application of separate technologies to system decisions, among which Learning Management System (LMS) and social networks dominate. There is a popular opinion in Russia that teachers prefer to use LMS in e-learning, and students - social networks.

In this paper we present the results of research of the relation of e-learning participants to applied technologies on the example of students and teachers of National Research Tomsk State University. The research includes survey, statistical data processing and the comparative analysis of results. During the research the experience of respondent's work in LMS and social networks was analyzed, the advantages and disadvantages of LMS and social networks as educational systems were identified, the features of training with use of LMS and social networks.

As a result of research the essential coincidence of pedagogical opportunities of LMS and social networks in the assessment of students and teachers was revealed. This result disproves a popular belief in essential distinctions of teachers and students in their relation to the e-learning technologies and confirms the necessity of an integrated approach to the application of LMS and social networks for training.

© 2014 The Authors. Published by Elsevier Ltd. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/3.0/>).

Peer-review under responsibility of the Organizing Committee of the ERPA Congress 2014.

Keywords: social networks; LMS; moodle; facebook; e-learning; evaluation; ways of learning; university

1. Introduction

In this article we present the results of research of the relation of e-learning participants to applied technologies (LMS, social networks) on the example of students and teachers of National Research Tomsk State University (TSU)

* Corresponding author. Tel.: +7-906-9543074; fax: +7-3822-529494.

E-mail address: fav@ido.tsu.ru

as one of the leading universities of Russia.

In modern education the important place is taken by e-learning which development is substantially defined by the evolution of technologies. Modern e-learning passed from application of separate technologies (video, multimedia, e-mail, etc.) to system decisions among which Learning Management System (LMS) and social networks (SN) dominate. Herewith, preferences of students and teachers depend on many factors – from a level of development of technologies in higher education institution to the features of information culture of participants of e-learning.

Today's students can be described as digital natives or members of the Net Generation; they were born in the digital age and have been interacting with digital technology from an early age such as SN etc. Teachers are digital immigrants and use to communicate with the traditional tools of social networking (e-mail, electronic texts, checking knowledge through tests) (Prensky, 2010; Tapscott & Williams, 2010; Thompson, 2013). We decided to check the existence of differences between students and teachers at TSU and hypothesis of our research is the assumption that there exist distinctions in the relation of students and teachers to two various e-learning tools and their preferences in them: LMS and SN. Therefore the purpose of our work is to identify and to describe these distinctions and preferences.

2. Method

The research includes survey, statistical data processing and comparative analysis of results. For data collection there were used Google Forms, for their processing – specialized software "Statistica v6.1.Ru". On basis of the survey results there were constructed tables of relative (%) and absolute (quantity) frequencies, contingency tables (cross tabulations). The survey results were compared in MS Excel.

For the research there was developed a questionnaire with 68 various questions: with single and multiple choice, in an open form (essay). All questions are divided into three groups.

First group of questions is directed on gathering of general information about the respondent (higher education institution, department, age, gender, student/ teacher), on indication of experience of LMS and SN use and on evaluation of preferences in information and communication technologies use in learning process.

Second group of questions is directed on comparison of various ways of learning process organization (in a classroom, in LMS, in SN) in 12 criteria. The questions of exactly this group in our research enable to reveal the relation of students and teachers to various ways of e-learning organization and to compare it to traditional face-to-face education. Learning process is different in a classroom, SN and LMS, though we aimed to find common criteria for comparison of these various ways of learning.

- Motivation: factors of interest formation in subject and teacher's (student's) individuality, attractive forms of learning activity (methods of cooperation), various methods of stimulation and valuation.
- Undistracted Attention: factors of students' concentration on learning activity, non-existence of factors disturbing learning process.
- Convenience of system: friendly interface, simple use, necessary functionality (the criterion was not used for evaluation of face-to-face learning).
- Efficiency of communication: speed of receiving/sending information/announcements, obtaining answer to a question/task.
- Frequency of communication between a student and a teacher in learning process.
- Informational content of communication: possibilities to exchange of sufficient volume of information and sufficient time for communication.
- Interaction: possibilities for students not only to listen but also to ask questions, to express opinion, to answer questions and tasks, to change content and learning forms.
- Individual approach: possibilities for the teacher to pay sufficient attention to each student, to consider his/her specific features, requirements and problems.
- Supportive communication between a student and a teacher (psychological aspects).
- Cooperation: possibilities for students to cooperate with each other in learning process.
- Understanding between a student and a teacher (mutual kindness and help, objective and detailed personal information about each other).
- Emotionality (informality) of communication between a student and a teacher.

In the questionnaire respondents ranked learning in a classroom, in social networks and LMS in each of 12 criteria from 1 to 5 (“1” - low rating, “5” - high rating). So, in their ranking respondents compared learning in a classroom, SN and LMS in each criterion.

Third group of questions is directed on definition of use frequency of 8 different learning methods in LMS and SN.

The survey was on open access and was transferred to respondents through SN, LMS Moodle and via e-mail. The survey was offered to students and teachers who had learning experience in LMS and/or SN. In total there were received 355 answers, 272 respondents of them were representatives of TSU: 48 teachers (4% of total number) and 224 students (2% of total number). Only the answers of TSU respondents were analyzed in the research.

For the research of students and teachers in their relation to various ways of e-learning organization we selected alone the answers of people who had experience in LMS Moodle and SN: 37 % of teachers and 55 % of students.

3. Results

In 9 of 12 criteria students and teachers made an equal evaluation.

Table 1. Equal evaluation of teachers and students

	Teachers			Students		
	Higher in SN (%)	Higher in moodle(%)	Equal in SN and moodle(%)	Higher in SN(%)	Higher in moodle(%)	Equal in SN and moodle(%)
Undistracted attention	23	45	3	22	40	38
Convenience of system	68	10	22	53	16	31
Efficiency of communication	68	0	32	61	11	28
Frequency of communication	81	16	3	55	16	29
Informational content of communication	52	11	37	43	23	34
Interaction	60	8	32	46	16	38
Individual approach	71	8	21	43	19	38
Cooperation	65	0	35	72	4	24
Emotionality	72	0	28	50	13	37

So, the majority of respondents consider that in SN interface is more convenient, efficiency, frequency, informational content, interaction, individual approach, cooperation and emotionality is higher in SN than in LMS, but factors disturbing learning process in Moodle is less than in SN.

In 3 of 12 criteria students and teachers made various, but not opposite evaluations.

Table 2. Different evaluation of teachers and students

	Teachers			Students		
	Higher in SN(%)	Higher in moodle(%)	Equal in SN and moodle(%)	Higher in SN(%)	Higher in moodle(%)	Equal in SN and moodle(%)
Motivation	76	5	19	41	17	42
Supportive communication	60	3	37	39	18	43
Understanding	53	0	47	41	16	43

The majority of teachers made higher evaluation of SN, but students made equal evaluation of both tools. These differences can be explained by greater importance individualization, motivation and understanding for teachers.

These three criteria are the part of the pedagogical design of education. So teachers value higher the possibility of SN for interpersonal communication.

As a result of the research an essential agreement of pedagogical opportunities of LMS and SN in evaluation of students and teachers was revealed. The result disproves a popular belief in essential distinctions of teachers and students in their relation to the e-learning technologies. Therewith analysis of collected data demonstrates that by students and teachers evaluation of SN in 9 of 12 criteria is higher than LMS. Comparison of e-learning and classroom shows that face-to-face learning is evaluated by student higher than in LMS and SN in 10 of 12 criteria.

4. Discussion and conclusion

Modern students appreciate learning opportunities in the classroom, at the same time understanding and using the advantages of e-learning. So in our judgment results of research confirm the necessity of an integrated approach to the application of LMS and SN in learning process, supplement of classroom lessons with individual work in LMS and collaborative work in SN.

We recommend not excluded from the study process of the university SN, because it adds to the e-learning alive dialogue, which is so important for success of education. Results of the research show that the LMS does not provide the pedagogical conditions of communication as well as SN. Therefore, we must find solutions for the integration of LMS and SN, and develop methodological tools of LMS that improve efficiency, frequency, informational content, interaction, emotionality, understanding of communication and individualization, motivation and cooperation of learning.

For further development of the research we aim to check the data collected in TSU using survey and interviewing of students and teachers from other Russian and foreign universities. In our opinion comparison of students and teachers in their relation to the e-learning instruments in different universities and countries enable to examine the results by interaction of more respondents to the research, to define perspective directions of e-learning development taking into account opinions of its participants.

Conclusions of this study will help us to understand and improve our use of LMS and SN tools in educational contexts. Our final goal is to adapt our teaching strategies to the educational needs of our students.

5. References

- Prensky, M. (2010). *Teaching digital natives: Partnering for real learning*. London, UK: Sage Publishers.
- Tapscott, D., & Williams, A. (2010). *Innovating the 21st century university: it's time*. *EDUCAUSE Review*, 45(1), 17–29.
- Thompson, P. (2013). *The digital natives as learners: technology use patterns and approaches to learning*. *Computers & Education*, 65(1), 12–33.