

# Perspective Analysis of the Use of Electronic Social Networks in a Learning Environment

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**Abstract.** A continuation of the retrospective analysis of research results of social networks and their use in modern education prospective analysis of using electronic social networks in the learning environment is carried out. Possible changes in teaching methodology when new objects - electronic social networking services, appear in the system of education are studied. Attention is paid to emphasis change from the network communication to productive discussion structure as well as from collaboration to cooperative learning methods for students. The problem of improving information and communication competence of all partners of learning process is described.

**Keywords.** Electronic social networks, informational and educational environment, learning

**Key Terms.** ICT, networks, learning

## 1 Introduction

A noticeable increase in the number of Internet social networks and global involving people in their use is one the forms of expression and development of communication network, that appears to be the basis of the information-oriented society.

Nowadays, electronic social networks (ESN) are the instruments by which a large number of users of the global network get more opportunities for communication, accumulation and transfer of knowledge, use of their own creativity in educational, scientific and socially important problem solving, generatation ideas, etc.

It is our opinion that, the use of electronic social networking in education can have a synergistic effect, related, in particular, to the fact, that combined use of several mutually agreed pedagogical strategies appears to be more useful than implementation of any isolated one.

## **2 Related Work**

In [1] we have analyzed a current state of educational research of ESN and formation of practical experience in their use. Retrospective analysis of social networks studies is made taking into account characteristics of their formation in terms of expanding communication space of globalized society; transformation of the old and the emergence of new practices of social interaction in different spheres of society. Based on the comparison of ESN potential and educational outcomes, as benchmarks of learning, we have defined pedagogically appropriate practical training tasks. Organizational forms of training, in which the use of ESN comes to be the most efficient, are also specified.

It necessary to point out that in recent years the formation of practical experience, activization of attempts of social networking services use in teaching practice has been observed in activities of teachers-bloggers, members of popular interest groups on Facebook (e.g. ICT - learning of Ukrainian teachers, Learn with Google, Educational technologists, PC in physical experiment) and professional communities on Google+. But this process is not accompanied by didactic and psycho-pedagogical substantiation.

Researchers, involving experience of foreign educators [2; 3], have identified a score of psychological, social and pedagogical arguments in favor of their application. Hereby we mention only a few which, in our opinion, are the most convincing.

1. ESN provide free use of a server for storing digital data.
2. ESN are popular among young people. This is a comfortable, convenient, positively disposed, familiar environment for the student.
3. With ESN as a teaching tool, students improve ability and create skills: properly and creatively use data to solve problems jointly create learning content, engage others and engage themselves in projects through various forms of communication (wikis, forums, polls, voting, comments, personal messages, chat, etc.), schedule (events, appointments, reminders of important dates) observe and coordinate their work.
4. A classroom discussion can be continued in the social network. Learning takes features of continuity.
5. A virtual learning group, set up in ESN, is always available if using mobile Internet.

## **3 Perspective Analysis in Pedagogical Research**

Equally important than a retrospective analysis of the phenomena is a perspective analysis of educational innovations. Prospective analysis of pedagogical innovations is equally important. Results of this analysis are probabilistic in nature, but without ones, it is impossible to prove both projected growth of education in general and specific subjects teaching techniques in particular. It is necessary to identify the factors that will make a significant impact on results of studies with the use of ESN, as well as degree of this impact due to the establishment and compliance with certain psychological and pedagogical conditions. In prospective analysis we understand studies of educational system by parameters, which determine its future status. The peculiarity

of such analysis is in projection of the past and present state of the object in the future, focus on the selection of specific behavioral strategies of learning process with many alternatives and forming an integral conception of development of educational system. It is assumed that due to changes in state of real learning environment it is possible to correct a strategic plan of behavior of individuals of educational process. It is also important to identify the causes and factors that can negatively influence results of learning activities and elaboration of precautions. In a prospective analysis and conceptual foresight, as a rule, qualitative changes appear to be important aspects when quantitative ones play a supporting role. For prospective analysis of electronic social networks use in the learning environment we offer the following indicators: the intensity of communication, indicator of thematic communication, self-activity indicator, the amount of interpersonal interactions, the set of competencies or academic performance.

Much can be debated about the pros and cons of ESN use. However, their dynamic use has become an active part of modern life. We are of the opinion that it is more effectively to focus on overcoming significant conservatism of teachers, which takes a form of opponency to any innovations, and on specific recommendations as for use of ESN in training and education. An active resistance to change can be overcome if: there is awareness of the essence of ESN, there are no restrictions in accessibility of ESN resources, there is an understanding of the negative consequences of neglect of student's safety in network.

#### **4 Research Methodology**

Conceptual theses of national and foreign social philosophy, sociology and psychology, made while researching development and functioning of social media in modern society, have made up theoretical basis of our research. We also used the theoretical conclusions of scientists regarding informatization of education (V. Bykov, R. Gurevich, M. Zhaldak, A. Gurzhiy, etc.) and scientific and education principles of formation and use of information learning environments (V. Bykov, Yu. Zhuk, V. Olijnyk, Ye. Polat, etc.).

Several theoretical methods: analysis of research problems in scientific publications; study of the experience of using electronic social networks in the learning process, methods of comparative analysis, methods of mathematical statistics for processing quantitative characteristics of phenomena under research are used in the study.

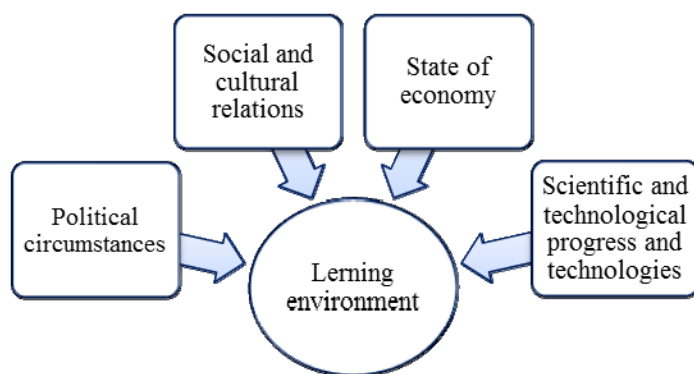
Some conclusions of our study also found evidence in thesis work results of national and foreign educators and researchers (T. Arhipova, Ben Romdan Sami, H. Kuchakovska, N. Tverezovska, I. Vylegzhanina and others).

#### **5 Results and Discussion**

For 20 years the study of the structure and functioning of learning environments with the use of information and communication technologies (ICT) has been urgent. Experts of various disciplines: technical, physics and mathematics, pedagogical and

psychological, take part in them. Innovations in pedagogy can not be considered in isolation from changes in society in general.

Environmental factors are objective conditions that occur independently from the institution, student and teaching staff, influencing it.



**Fig. 1.** Factors of indirect effect on the development of modern learning environment

Electronic social networks are widely used today in the life of many people, their popularity is growing rapidly, that is indicated by numerous statistical reports of Internet companies, including site «Alexa's digital marketing tools» (<http://www.alexacom/>).

We conducted a survey (without use of computer devices and the Internet). The survey involved students and teachers both urban and rural schools (Table 1).

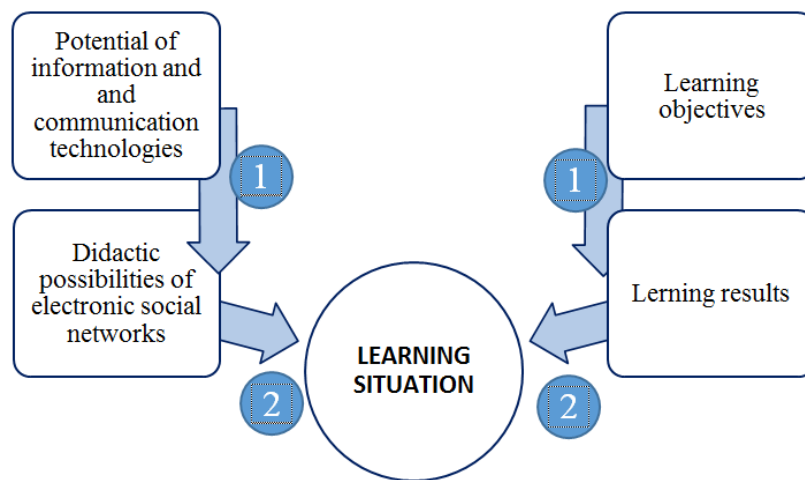
**Table 1.** A number of respondents according to the residence

A number of residents in community	Number of respondents
over 1 million	79
from 300 000 to 1 million	78
from 100 000 to 300 000	48
from 50 000 to 100 000	8
from 10 000 to 50 000	31
from 2 000 to 10 000	109
from 700 to 2 000	40
under 700	21

It emerged that among students aged 14 to 18 using social networks (such as Facebook, VKontakte and Odnoklassniki) there were 95.2% of respondents. So, in our opinion, not to try using this tool for the purpose of studies would be wrong. At the same time, provided that only 2.2% of teachers do not have access to the Internet, only 66.3% use social networks when working with students and / or parents. We have found that teachers in their professional activity are more inclined to use ESN to communicate with colleagues (61%), to advise students on the subject (41.5%), to get

information on additional resources on subject topics (39.8%), to communicate with students as class master (38.1%) and to put online homework (36.4%). Much less attention is paid to such opportunities as setting up an informal communication on the subjects content (23.7%) and designing of joint educational projects (21.2%).

By creating a "learning situations", which are focused on the use of ESN, a teacher can promote universal learning activities (personal, regulatory, cognitive, communicative) that will provide the development of skills of independent acquisition of new knowledge and skills, formation and development of critical thinking, development of communicative skills of students. Fig. 2 outlines a design process of learning situation in conditions of ESN use by a teacher.



**Fig. 2.** A design process of learning situation (1 – specification; 2 – shaping)

With ESN services one can arrange a rap session in the form of discussion when development of students' subjectively new knowledge happens by expressing their own thoughts and by comparison of opponents' views on the issue. The situation where the emotional and intellectual stimulus encourages to active thinking is created. Leaders manages the process of discussion. Usually, that is a teacher. It is he, who has to define the topic of discussion, the main question (up to five), to determine the course of the discussion, choose basic training and other materials for participants. Keeping rules of ethical behavior is necessary condition, which everyone should agree.

One of the latest trends in business success is a process of joint activities in intellectual sphere of individuals or organizations to achieve common goals at which the exchange of knowledge, learning, and as they say, agreement occur. If collaborative learning (learning in cooperation, teamwork) is perceived as a certain theory of interaction in the learning process, determining its overall direction, the cooperative learning is a means of implementing collaboration.

Cooperative learning is focused on the use of quantitative methods that take into account achievement, that is learning outcomes. Cooperative learning is a structured, systematic training strategy in which small purposefully selected group of 3-5 stu-

dents work together on a common goal, creating a final product that has semantic specificity. The group inhomogeneous. The group consists of students of different levels of success, different abilities and skills. Thus, every student responsible individually for results of work, and a teacher acts as an advisor of group learning process. All students in the group are responsible for the work (there is no a leader). Cooperative learning is more focused than the system of collaborative learning activities, and more centered on a teacher. Cooperative work in a group includes both successful promotion in the cognitive process of each student and breaking ice, as well as maintaining good working relationships between team members. A number of social skills: ability to listen, respect an opinion of an opponent, expressing criticism to correct errors is necessary for successful cooperative work.

Collaborative learning includes such formats as group projects, joint development and so on. In the context of e-learning, collaborative learning gained a new interpretation (computer-supported collaborative learning). First of all, it is connected with the use of Web 2.0 services, social networking apps, that support mutual activity, virtual communities for the purpose of learning.

The methodological approaches, mentioned above, require "new literacy" [4] of the teacher, a higher level of information and communication competence (IC-competence). On the other hand, active use of ESN and other means of ICT in educational practice leads to gradual development of IC-competence. The teacher possesses methods and styles of information learning activity, that is adequate to the situation, that occur in the process of educational information environment development; forms skills of effective network interaction of educational teams in a global information and education space; develops competencies, needed to shape effective learning programs in open information and educational environment; learns modern tools of conceptual foresight, analytics and diagnostics of educational results.

— Formation of subjectively new knowledge

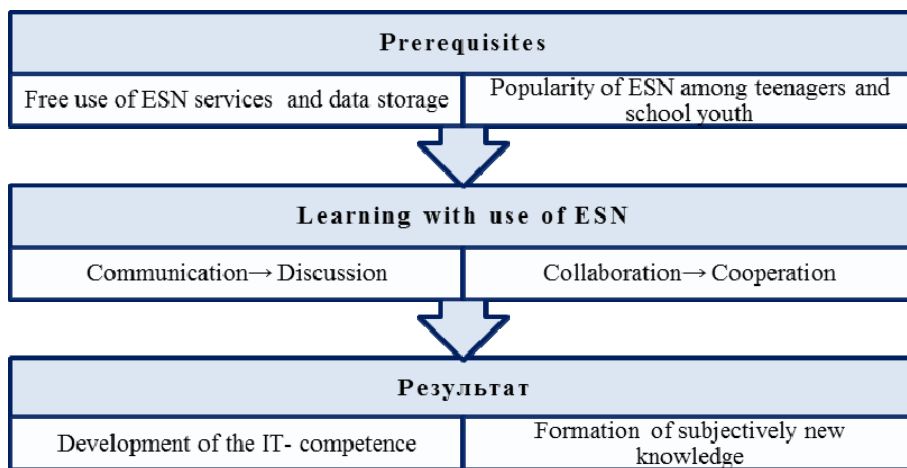


Fig. 3. Particular issues associated with ESN use learning

## **6 Concluding Remarks and Future Work**

In our view, the readiness of a teacher to changes that are focused on active and effective use of ESN in his T and E activity; capacity for effective cooperation and experience exchange with teams of educators in their professional field; knowledge about new teaching methods that provide flexibility and adequacy of the implementation of new ICT in the learning process could not emerge spontaneously, without purposeful pedagogical influence. Creation of appropriate learning courses for teachers is actual problem that requires a solution. We offer to create guidelines for teachers around the following ideas. 1. The effectiveness of group interaction. 2. A need for self-development as a component of cognitive creativity of senior students. 3. A research of features of instructional design of information and educational learning environment. 4. Use of electronic social networks towards the problems solution of various educational formats synchronization and in order to build an integrated trajectory of individual learning.

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