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# SOCIAL NETWORKS AS A CONSTITUENT OF ELEARNING ENVIRONMENT

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#### ABSTRACT

The paper presents some results of the analysis of social networks as a constituent of e-learning environment. The paper defines the concept "social network", the basic principles and characteristics of social networks are singled out. Based on the analysis of the results of sociological research, it was discovered that social networks are a common type of network communication that is used by both teachers and students. The advantages and peculiarities of using social networks for educational purposes are established. The authors analyze prospects of using such social networking options and services as exchange of messages, documents and news; ways of boosting teamwork by creating interest groups in social networks; improving teacher-student interaction via personal pages for public and mass communication. The most problematic questions about the use of social networks in the educational process are singled out.

#### **KEYWORDS**

Social networks, educational process, team work, exchange of messages, communication.

## 1 INTRODUCTION

Social networks in the modern world are one of the most widespread phenomena, because there is definitely no person who has not participated in them. Annually we witness the increase in the number of social networks as well as their funcitions, opening up new opportunities. Environments like Facebook, Twitter, Instagram, Youtube are widely used by friends and relatives for prompt news, interesting information, educational videos and music to taste. However, the use of social networks in the educational process has not yet received such widespread use.

Various aspects of social networks are studied in pedagogical aspect by such scholars as M. Glazunov, S. Ivashnev, I. Karp, S. Kirilchuk, O. Klymenko, G. Kuchakovska, N. Matviychuk, N. Pazyura, M. Radchenko, O. Tishkova, O. Feshchenko, N. Shulskaya, O. Shcherbakov, G. Shcherbyna, A. Yatsyshyn and others.

From a sociological point of view, the social network is a social structure created by nodes, united by one or a few common traits and represented mostly by individual members or organizations. Social networks can be created against the background of commonality of values, friendship, kinship, hostility, conflict,

commerce, Internet connections, sexual relations, religious beliefs, or the like. For the first time the term "social network" was used in 1954 by a British sociologist, a representative of the Manchester School, J. Barnes to determine the samples of social ties that went against the traditional concepts for many sociologists such as limited groups (tribes, families) or such social categories as gender or ethnicity, etc.

In the modern world social networks have become an interactive Internet community of many users, separated by time, place of residence, sometimes even by native language, but united by some principle (for instance, common interests, common work, profession, academic interests, hobby, place of residence, etc.) and organized in the environment of a certain web resource, where the content is created by the users themselves. Social networks are designed to build, display and organize social relationships and are used to establish relationships between various users and information resources corresponding to their respective interests, presented on websites of the global network.

Social networks offer new information and communication channels, new ways to interact, special communication technologies and activities. In this case, the activity is exclusively voluntary, motivated both at the stage of choosing a social network and at the stages of the user's daily actions. According to a number of studies, the most popular social networks in the world and in Ukraine are Facebook, Twitter, Youtube, Tumblr, Instagram etc. (data for June 2017) (The most popular social networks).

Most researchers argue that the basic features of the social network are as follows:

1) identification – the ability to provide information about themselves (date of birth, favorite occupations, books, movies, skills, etc.), that is, create their own portfolio with their achievements and aspirations;

2) presence on the site – an opportunity to see who is currently online and engage in communication with them;

3) relationships – the ability to describe the relations between users (friends, family members, friends' friends, etc.);

4) communication – the ability to communicate with other members of the network synchronously and asynchronously (personal and group communication, commenting the posts from participants' personal pages, etc.);

5) mini-groups – the ability to form within the social network of community interest;

6)reputation – the openness of participants' status, their behavior within the social network;

7) exchange – the opportunity to share with other participants the materials important for them (photos, documents, links, presentations, etc.) (Klymenko, 2012).

For more detailed analysis of the current state of using social networks by the subjects of the educational process we conducted a sociological study to determine the scope of use of ICTs in various modes of professors' activity. The research was fulfilled within the framework of international research project «International Research Network for study and development of new tools and methods for advanced pedagogical science in the field of ICT instruments, e-learning and intercultural competences». The project is financed by the European Commission under the 7th Framework Programme, within the Marie Curie Actions International Research Staff Exchange Scheme. Participants of the project are universities from Poland, Slovakia, Spain, Australia, Czech Republic, the Netherlands, Russian Federation and Ukraine.

Dniprovsk State Technical University is an official participant of the project, reflecting general trends of development in average technical universities of Ukraine. The sociological survey was conducted via a specially designed toolkit in May 2015 and suggested to professors and heads of structural units of the university . The survey was attended by 53 university staff members, of which 89% are scientific and pedagogical staff (59% associate professors, 26% lecturerss, 4% professors) and 11% heads of structural units.

According to the results of the survey it was found that social networks take the second position in the list of modes of network communication, since every fifth professor uses them in professional activity (Fig. 1). At the same time, the most widely used means for teacher-student communication remains the exchange of messages and instant messaging from DL platform, comfortable for almost half of professors (43,7%).

As for the use of social networks by modern students, it should be noted that they are usually used to communicate with friends and groupmates outside of school hours, and their potential as a resource for distance learning in Ukraine is only gaining momentum. Thus, according to another study conducted in Dniprovsk State Technical University within the framework of the IRNet project<sup>1</sup>, it was found that only 15.15% of students used social networks to contact with faculty at extracurricular times. The most popular ways are personal meetings (31.31%), communication via e-mail (29.63%) and by telephone (22.56%).

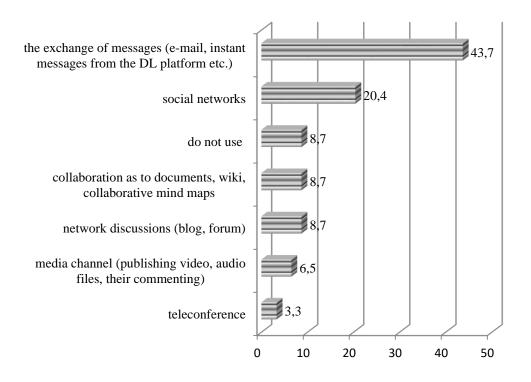


Figure 1 Kinds of network communication, used by professors in teaching, in %

<b>Table 1</b> The most widely used e-resources for student-teacher interaction outside class hours
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Answer	%
Personal interaction	31,31
By e-mail	29,63
By telephone	22,56
Via social networks	15,15
Via Moodle platform (or other DL platform)	1,35

Social networks are even less popular when it comes to transferring test papers to the teacher. By asking another question in the survey we were trying to see which ICT instruments the students actually use to

The survey was conducted anonymously in May 2014 by a computer questionnaire, developed within the framework of the IRNet project. Approximately 80% of students responded at home, while others did so after university classes. The survey was attended by 184 full-time and part-time students, of which 49.46% were women and 50.54% men. Regarding the courses, it should be said that among the 184 respondents, 75.54% were junior students (I-III year of study) and 24.46% - senior courses respectively (bachelors, specialists and masters).

deliver assignments to the professor and which ones are considered the most efficient but in practice used less widely. Only 9% of all respondents consider social networks to be effective in this context. Only 5.56% of students have experience of using social networks in learning (Fig. 2). Presumably, such low feedback about both efficiency and actual use reflects some degree of unfamiliarity with the potential of social networks as to creative tasks, file transfer, efficiency of media-enhanced communication in the field of learning.

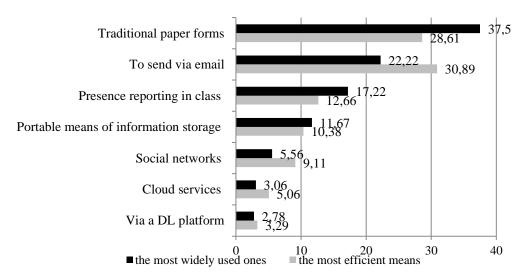


Figure 2 Comparison of the most effective and most commonly used methods of transferring completed assignments to the teacher (in %)

In connection with this in the modern scientific discourse there is a fierce debate about the efficiency of social networks for learning, given that social networks have always been used for leisure time and entertainment. Many researchers are stressing the benefits and potential of this ICT, while others, mainly elder teachers, emphasize its shortcomings. That is why, to objectively analyze the peculiarities of using ICT in higher education, we consider it logical to determine its advantages and disadvantages.

#### The disadvantages of social networking for education

The openness of network interaction can be perceived both positively and negatively when we deal with educational process. It is quite evident for some researchers that social networks can slow down the learning itself and can hardly become an extra teaching tool, because social communication is traditionally a virtual environment to spend free time. The main obstacles associated with using social networks in education are permanent connection to the social environment, expertise in the communication etiquette among participants, failure to constantly monitor the use of social networks for educational purposes, etc. Additionally, it will not always be possible to check the credibility of educational materials downloaded by the students (Kuchakovska, 2015).

It takes a lot of mental and emotional effort, but also time to organize and manage teaching in the network. Here it is worth stressing poor intsruments to assess teacher's efforts in social networks. In addition, limited access to social networks from university classrooms and unstable access to the Internet can lead to complications for students' learning tasks. Traditional assessment of students' work is also indirect and remains a bit of a challenge.

Apart from that, all participants of network communication need self-organization skills, which is a common problem of entire network communication. In these circumstances, where a message can be sent at any time interval (on business days and on weekends, during the day and at night, after a specified period), it is important for teachers to monitor and track the time when messages arrive, while for the students to limit their communication with professor by working hours. Professors are advised to develop a personalized timetable to deal with incoming messages (Strekalkova, 2016).

We should not forget that online networks are first of all perceived by students as an entertaining tool for online communication with friends. In this regard, researchers point out that students spend a lot of time on online games, various psychological tests, chats, etc. Numerous network applications take students' time, robbing them of concentration on their main learning assignment. Students also lose much time learning the personal information of their friends in order to improve their relationships in the social network (Prensky, 2006). To effectively solve this problem, the teacher must act as a motivator, encouraging students to discipline and rationally use time in the social network.

The lack of direct contact with the teacher and instant feedback also becomes a major obstacle, since the teacher is not able to determine whether the students correctly understand the material of the course, which is especially relevant for humanitarian disciplines, since the test form of the survey in this context is not always there applicable.

In the process of exchanging ideas and points of view on the Internet, students sometimes find it difficult to express complex and abstract ideas, which can lead to misunderstandings and incorrect perception of information. Full immersion of students into virtual space can generally lead to worsening of communication skills with real people and the development of Internet addiction. However, all these disadvantages can be avoided if the social networks are properly used in the educational process.

At the same time, the abundance of social networks is a real disadvantage for professors, who will always struggle in the amount of messages coming in different channels.

#### Social networks and their functions

Facebook as the world's most popular service was born in 2004 to serve just as an academic social network that was originally available only to Harvard students, then the registration was open to other Boston universities, and later to students from all US educational institutions, having an email address in the .edu domain. Thus, the students logged onto Facebook from university computers and used their academic email address for the purpose (the same for announcements about the schedule of classes, academic plans and debts, educational materials, etc.). It is only since September 2006 (that is, 2.5 years after the opening), the website became accessible to all Internet users aged 13 and older who have an email address.

In the same way American scientists were among the first users of the social network Twitter. During the first year of its existence, reports of scientific conferences, symposiums, references to scientific works, etc. prevailed in it. From this we can conclude that in the American educational community, the use of the social network for educational purposes is perceived as an obvious and inalienable function [Shalimov, 2013].

The YouTube social network provides users with services of storage, delivery and demonstration of video. Users can download, view, rate, comment on, send messages and share their video clips. In particular, the use of video materials in the teaching of humanitarian disciplines helps to assimilate the abstract theoretical positions, and the decision of applied tasks. Due to the viewing of feature films, social reality is presented to students by a tangible and understandable object of sociology that helps their professional development (Korytnikova, 2012). Movies and videos contain examples of social life and interaction in a variety of situations and circumstances. Video materials allow you to analyze social statuses and social roles, to highlight examples of social mobility and stratification, to determine the specifics of a diverse society, and so on. The most successful work with films takes place during seminars as consolidation of theoretical knowledge, as well as in the context of independent work as a recollection of the lecture material. The use of films contributes to the development of analysis skills, the formation of their own thinking, the ability to argue their point of view. Of course, in order for the film to become a means of learning, and a tool for educating students, it is necessary not only to organize a productive discussion of what has been seen and to intensify the cognitive activity of students on problematic issues and special tasks, but also to correctly select the content of the film, as well as the place and time of its use (Rassudova, 2014).

The use of social networks in educational activities allows network members to create network educational content, provides the opportunity to perform group tasks, using such additional options as forums,

comments, polls, voting; simplifies the process of information exchange and provides for the implementation of the principle of continuous education. Here the preconditions are created for the formation of professional competencies of students as future managers: skills of interaction, self-organization, developing the skill of creative thinking (Kyrylchuk, 2015).

In this context, we consider it necessary to study in more detail the possibilities of using various social networking options and services in order to increase the communication efficiency for the participants of the educational environment, since teaching of each discipline can be improved profoundly through such social networking tools as the exchange of relevant announcements, messages, news; the ability to make audio and video recordings that can be accessed by all participants at any time of the day; creating groups and subgroups of interests; meeting new interesting people for further communication and exchange of experience, etc.

Such option as instant messaging is of paramount importance for the educational process. It is messaging that promotes regular operational formal and informal communication of subjects of the educational process for learning purposes in real time: teachers with students for consultations and permanent coordination of activities; teachers with teachers to exchange experiences and find innovative teaching methods; students with students to solve various issues and extracurricular communication; teachers and parents to inform the latter about the achievements of students, etc. With the help of the messaging service, you can freely transfer organizational and training information, send training materials and tasks, as well as review them, consult.

Thus, learning becomes more targeted and individualized, thus the delivered messages and materials are kept indefinitely and allow the students who did not have the opportunity to attend classroom to get acquainted with missing topics. All versions of the documents are available at the same time both to the teacher and the student, which solves the problem of backup and loss of electronic version of reports. The transfer of the tasks (abstracts, essays, coursework and master's theses) to the teacher for checking through social networks significantly reduces the expenses for printing the material. At the same time, the teachers does not need to carry heavy paper copies with him, because they can review the papers at any convenient time from laptop, tablet or smartphone, and immediately make comments in the document and at the same time ask students to clarify some points in the messenger. In addition, having an electronic version of the work, the teacher can immediately check it for plagiarism.

To unite students according to interests, to perform group tasks and form teamwork skills we can use a service that allows you to create groups in social networks. Through these groups it is possible to effectively organize the work of groups and sections, coordinate students' work on their own educational projects, discuss problems, organize educational and cultural events, which may include large audiences: authoritative scholars and public people, students from different universities, colleagues from abroad, parents, etc. Thus, from a personal social profile one can build a real educational (virtual) community (Radchenko, 2014).

The social network in this case can function as an endless forum – to permit to constantly create new topics, to comment on and discuss the posts of other users, to participate in the educational discussion, to fill the running news section with their own materials or interesting news, to comment on the educational materials of their colleagues from the community, etc. Thus, by attracting students to the network instructors stimulate them to scientific work and, at the same time, create for them the opportunity to be members of a prestigious community. Social networks were originally created specifically to stimulate social interaction, so using this opportunity will allow students to collaborate on projects in social networks. By creating a training group in a social network, teachers can significantly increase the level of motivation in a group and give students the opportunity to participate in multi-level interaction. It has been established that social networks allow each student to perform tasks at a rate corresponding to their individual characteristics and not dependent on more capable students (Pempek, Yermolaeva, Calvert, 2009).

Organizing students' work in groups will make learning more problem-oriented and student-centric, since each group can work on the task of seeking solutions to a problem situation or problem. Therefore, the

teaching materials and consultations in each group become more specific and without distraction. Owing to virtual learning groups it is possible to implement different tempos of student learning (moderate, medium, high), which are conditioned by different input competences, levels of motivation and subjective external circumstances of students. In groups of social networks we can continue the discussions that were initiated during classroom sessions and which raised some special interest in students, the ones which will provide more thorough mastering of the material. The support of the educational topic in the social network allows those who missed classes not to "fall out" from the topic, but to participate in discussions and perform tasks at home. Such groups can be created not only by teachers but also by students themselves, who can be their administrators. This contributes to the development of leadership qualities, improves social activity of students, the level of their self-organization and the implementation of the subject-subject paradigm of higher education. Students have the opportunity to use social networks to work together in the format of some initiative with bottom-up approach. Virtual social networks have created conditions for students to share what they learned and the interesting things they discovered on the net with their classmates and teachers.

Messaging as well as the wall of a personal page are a good service for individual communication, for public (mass) communication, since they allow to publish for a large number of students at less time - the teacher does not need to send a personal message to each student, but just publish it on the wall in public access. And students, in this case, can only put a "like", thereby affirming the fact of familiarity with the information and do not have to waste time creating a personal message. Messages about changes that are occurring in the learning process are displayed instantly, they are easily tracked due to the constant updating of the news feed. On their personal page, teachers can publish teaching and other informative materials, share interesting news, report important events, present links, and more. It is advisable to use the wall of your own page to remind of meetings, conferences, cultural events. Publications on the teacher's page allow students to learn more about the latest research of teachers and other professionals in a particular field of knowledge. Thanks to personal pages interpersonal relations between teachers and students are facilitated, effective communication is established, after reading the information about the teacher and reviewing his posts and photographs, students can find common interests with a teacher outside the discipline. Familiarization with students' pages allows the teacher to better understand the identity of the interlocutor, which leads to increased openness and informative communication. In turn, the evaluation ("likes", "preferences") of publications and photographs provides a natural desire to get an appropriate response to their actions and thus makes further communication more relaxed.

Significant advantages in attracting students and activating their thinking are audio and video records that can be distributed, either through the exchange of messages, or publication in groups or on their own pages. With this service, you can view and listen to educational videos posted on the network, as well as add your own. Visualization of materials to overcome the technical difficulties of properly equipping study groups for displaying visual materials in electronic form is one of the most important positive aspects of the use of virtual social networks in the educational process (Iatsyshyn, 2014). In this context, for the purpose of distance learning, the service of conducting group video conferences is of particular importance, which ensures interactive learning and conducting lectures and discussions in real time.

#### The advantages of social networking for education

The use of social networks for educational purposes apparently has the following benefits:

- cost-efficiency and affordability at any point, as access to all social networks is free of charge due to Internet technologies, and therefore the university does not need to buy special software. Due to the spread of the Internet it is possible to communicate and exchange information between students from different countries;

- the ease of registration and use, the convenience of distribution services and message information, userfriendly interface and good functionality, which allows students to feel comfortable in this environment;

- the formation of students' ICT competences necessary for life in the knowledge society;

- constant interaction of students and teachers in a convenient time outside the classroom, which promotes the unity of the student's group, giving them some experience of independent organization of their work;

- joint creation and improvement of educational content that promotes interest and motivation of students in studying the course, because instead of passive perception of lecture materials, students have the opportunity to discuss in forums, participate in polling or voting, exchange interesting and useful links;

- ensuring the development of the student's personalized learning environment, promoting self-study of students, since each of them needs to work at their own rhythm. Thanks to the person's identification in social networks, teachers have the opportunity to learn more about the student's personality, his or her individual characteristics and to offer them information, topics or tasks that should interest them;

- continuity of training, since it can be carried out in the on-line mode, which allows you to work and study even during illness;

- informal communication between a teacher and a student, since in a social network the teacher becomes an assistant, friend, mentor (Kuchakovska, 2015);

- in the organizational aspect social networks allow the prompt publication and receipt of information about the schedule of classes, training, tasks, etc.;

- availability of a mobile version of the pages of the virtual social community, ie access for students and teachers at a convenient time and in a convenient place from any mobile device (mobile phone, tablet, netbook, laptop, smartphone, etc.) connected to the Internet;

- visualization of materials that can overcome the technical difficulties of equipping the classrooms with the necessary equipment for displaying visual materials in electronic form (Iatsyshyn, 2014);

- regular use of social networks in the educational process promotes the formation of digital communication skills; develops communicative competence.

In pedagogical activity, the prospects of social networks can be used to solve a variety of tasks: to effectively organize collective work of a distributed training group, long-term project activity, international exchanges, including scientific and educational ones; to receive the opportunity of continuous education and self-education, network collaboration of people located in different countries, on different continents of the earth. It all speaks of great opportunities, as teachers can wisely plan their timetables, properly organize their schedule and achieve good results. Social networks allow you to optimize your own time expenditures and achieve an effect not only for yourself but for students, that is, to achieve the most important goal of the educational process. It is social networks, actively used recently, that are considered as a mechanism where students and teachers can find points of intersection of common interests within the learning process and maximize the effect on both sides. For the teacher, this is manifested in the optimization of time, and for students in achieving high qualitative and quantitative indicators.

The use of social networks gives the following benefits to the teacher: support for the teacher's professional activity; the possibility of self-realization and self-fulfillment through joint practical activity; creation and support of new educational initiatives; selection of optimal forms and rates of teaching; the use of those learning methods that are most relevant to the individual abilities of students; creation of a single informational pedagogical resource; organization of practical activity of teachers in the network; development and realization of creative skills of project participants.

It should be noted that the introduction of social networks into the educational process provides an opportunity for students: to study in depth individual disciplines, sections or topics; apply the learning methods most relevant to individual abilities; receive and send training information promptly; obtain a chance of self-realization and self-assertion through joint practical activity; participate in various projects of knowledge acquisition in various subject areas; to expand communicative communities, to cultivate

tolerance, to develop critical thinking; to choose the optimal forms and tempos of learning; develop autonomy and responsibility; skills of team work (Tishkova, 2014).

From the results of research on the use of social services in education in the United States it was concluded that first-year students who study using ICTs and especially social networks are more successful in learning than full-time students (Barnes). Currently, many university accounts are registered in different countries, where academic staff and students, independently or collaboratively, create educational content, which in turn stimulates independent cognitive activity in others. In Ukraine the practice of using social networks for educational purposes is rapidly gaining popularity.

The advantages of social networks as to improving the efficiency of teacher-student interaction lie in the fact that they represent a familiar environment for the students where they spend most of their time. They have a simple user interface; they incorporate many additional services that can be used to create their own educational content. All this allows you to save time bypassing the stage of adaptation of students to the new communicative space. This, in turn, contributes to improving students' interest in a particular subject. For a modern generation Z it is more interesting to search and learn educational material not in printed form, but through the Internet. It becomes possible to create educational content in collaboration (learner and teacher). Instead of simply consuming information, learners create messages, discussions and other resources. All this contributes to the enhancement of the communicative relationship between students, strengthens the student community, which learns to organize their own work outside the classroom. Social networks have the advantage from an economic point of view, because this service is free, which does not require expensive software for data storage (Kuchakovska, 2014).

The use of social networks as a communication platform allows to organize independent work of students in extra-curricular time. After all, methodically correct and purposeful involvement of online services in the educational process potentially promotes self-regulated self-study, since learning through electronic social networks is an active, dynamic process, initiated and managed by the students themselves. In addition, the use of network technology services as a modern educational tool improves the quality of educational process, promotes formation of media literacy in learners, which allows to quickly respond to the new requirements of the information society (Shulska, 2017).

With social networks as an instrument of learning, students develop the skills needed by the calls of the 21st century, that is, improving the skills of communication with other people, the skills to correctly and creatively use information to solve problematic issues. The social network empowers the teacher to see students interests' deeper through their interests, activities and communities. This permits the teachers to offer students the kind of information, topics or tasks that must be of interest to them.

Social networks offer profound opportunities for establishing communication between teachers and students' parents. Traditional means of communication with parents through the students themselves do not bring the desired effect, either due to the parents' work overload or to the student's reluctance to inform parents of not so positive news. Social networks transform parents from passive observers to active participants in the educational space, since they enable them to constantly keep abreast of events by discussing various situations in Facebook and similar groups in etc. Thanks to social networks, students, their parents and teachers will at any time be able to get acquainted with the success, attending classes, activities in the scientific life of the university (conferences, seminars, articles publications, internships). On the other hand, it disciplines students who understand that parents are aware of their educational achievements and disadvantages as well as teachers, as they are exposed to parental attention.

#### CONCLUSION

Consequently, the use of social networks in the educational process of higher education institutions has many advantages, first of all related to the development of communication skills and information competences of students and teachers. With the help of social networks, the teacher can significantly simplify the procedures for informing students about current events and plans; provide methodical manuals and educational materials; share additional instructions; teachers can accept, review and edit students' assignments in electronic form; they can continually counsel students on problem issues individually. Social services allow you to save time, overcome territorial and communicative barriers, organize discussions on educational topics, and therefore can successfully supplement modern teaching aids. However, the practice of using such services in the learning environment has not yet become widespread, which is conditioned by the lack of methodology to use social networks as a means of training. Besides, educational management or professors themselves need to set the rules of this communication – decide upon the channel of network communication and oblige students use only the one suggested, otherwise this communication will rob professors of precious time and will turn all communication into a chaos, a communication noise.

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