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Social Media in Teacher Education: Organizational and Pedagogical Conditions of its Effectiveness

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Abstract

The role of social media in a pedagogical context is the focus of attention of many researchers. At the same time, the issues of highlighting the conditions for the effective use of social media in the pedagogical context and the analysis of attendant risks remain open. The purpose of this study is to identify the organizational and pedagogical conditions for the effective use of social media in pedagogical education. The identified organizational and pedagogical conditions are based on five key provisions.

1. Implementation of the principle of intermodality, according to which each student should be given the opportunity to engage in various forms of activity (educational and social).
2. The leading role of technology in organizing group work (including in the framework of project activities).
3. Individualization of the learning process.
4. Ensuring the continuity of the educational process.
5. Creation of special means of motivating students and providing feedback (special groups within the framework of social media).

These conditions for the use of social media in pedagogical education are based on the principle of intermodality. These conditions allow us to individualize the learning environment, which expands the possibility of creative self-expression in learning activities. Students receive opportunities to implement personalized feedback (from peers and teachers), create their own groups and forums for sharing information and creating new personally significant knowledge, tools for interacting with specialists from different subject areas and professional sphere. In this case, an indirect effect is also achieved – an impact on those who are not directly involved in the educational process. Due to the interactive and open nature of social networks, students serve as models of social behavior for their peers, which contributes to an increase in the number of subjects of the educational space. Peers who are experiencing such an impact, find themselves in the conditions of informal education in fact.

Keywords: social media, social networks, social software, groups, blogs, intermodality, informal education.

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Introduction

The role of social media in a pedagogical context is the focus of attention of many researchers. Social media is defined as “a group of Internet applications ... which allows you to create and share user-generated content” (Tselyh, 2017) and cover “all types of Internet applications that support interaction between groups and within groups” (Selwyn & Grant, 2009). In the pedagogical context, social media has a three-part structure (Potter, 2013), their users belong to four main groups (Luckin et al., 2009). Social media-based learning is open, creative, and system-oriented (Doll, 2012; Moglan, 2014). Social media significantly changes access to information and the interaction of students with teachers and with each other (Belko et al., 2016; Casey, 2013; Conole, Gallery & Culver, 2011; Rodionova, 2016). Social networks allow users to comprehend and visualize the systems of their social interactions (Boyd & Ellison, 2007; Kergilova & Sazonova, 2017). “Social networks ... enable users to articulate and make visible their social networks” (Boyd & Ellison, 2007). At the same time, the issues of highlighting the conditions for the effective use of social media in the pedagogical context and the analysis of attendant risks remain open.

The purpose of our study is to identify the organizational and pedagogical conditions for the effective use of social media in pedagogical education.

For quite a long period of time, many domestic and foreign authors have studied the problem of the role of social media in the pedagogical context. A sufficiently detailed bibliography of such studies is contained, for example, in the researches of Tselyh (2017) and Casey (2013). It can be stated that the interpretation of the very concept of “social media” among Russian and foreign authors is very close. Rodionova (2016) defines social media as “a group of Internet applications built on the ideological and technological foundation of the so-called Web 2.0, which allows you to create and share user content”. Selwyn and Grant (2009) characterize social software as encompassing all types of Internet applications that support interaction between groups and within groups. Some researchers analyze a wider range of issues. Thus, Potter (2017) in his work on the development of the effective definition in practice of the term “mass media”, comes to the need to consider a system of three categories (channels of message distribution, message sender and audience), characterized by in total, ten parameters (Potter, 2017). In a study by Luckin, Clark, Graber, Logan, Mee, Loliver (2009) a classification of social media users was built. These authors, based on the analysis of the features of use of social tools by students, divided them into four main groups. These groups are “researchers”, “employees”, “producers” and “publishers”. Conole, Gallery, Culver (2011) in the framework of the study of new learning contexts through the social consider two key problems – understanding of the nature of the interaction between users of social software and understanding of the nature of the interaction between users and tools that are part of the environment.

Casey (2013) points out the identity of the concepts “social software”, “social networks” and “social media” in the pedagogical context. Following these approach, we will also identify these concepts. The most significant feature which determines the importance of social media in a similar context, in our opinion, was highlighted in the work of Casey (2013). Social media significantly change the way students gain access to information, as well as how students interact with teachers and with each other (Casey, 2013). Practically all the authors note that, due to their peculiarities, social software has a significant potential for the realization of ideas of creative and innovative learning. Doll (2005) in his study describes a new type of learning based on social media, as “open, dynamic, relational, creative and system-oriented”. According to Boyd and Ellison (2007) a unique feature of social networks is that they allow users to formulate and visualize the systems of their social interactions, and this can lead to the emergence of new connections between people otherwise they would not have arisen. Socialization, which is intensified as the student engages in social networks in a pedagogical context, leads to greater integration, support and understanding. This can help reduce the sense of isolation among students and increase the success of learning activities. It can be said that social media increase the coherence of society, this feature is significant in the pedagogical context. We believe that social media should organically complement traditional learning tools.

Zolotarev (2016) noted the following main advantages of using social networks in training:

- the majority of students at the time of inclusion in the educational process already have accounts in social networks, respectively, social networks are a familiar and comfortable environment for them;
- a significant part of the active users of social networks uses mobile platforms, respectively, the technical prerequisites for obtaining relevant educational information in real time are formed;
- social networks provide users with various means of creating common chats, walls and groups, which, in turn, is a tool for organizing the joint work of students;
- Wiki technologies implemented within the framework of social networks are a flexible and accessible tool for creating online educational content;
- a wide range of opportunities inherent in social networks (including, in particular, gaming technology, multimedia and video communication) contributes to the formation and development of positive academic motivation of students.

Rodionov (2017), within the framework of a fairly local task – the study of the possibilities of social networks in teaching graphic design – notes a number of positive points. These include:

- increasing the motivation of students for learning activities;
- availability of simple and accessible tools for the exchange of educational information in electronic form;
- the opportunity to evaluate the research activity of students (for example, by the amount of information laid out, the frequency of its updating and addition, the intensity of reference to the sources);
- the opportunity to use information provided in various formats and provide access to such information in real time;
- availability of tools for prompt notification of students about changes in the educational process (transfer of classes, etc.);
- the opportunity to monitor the process of assigning students in real time (including students in the framework of correspondence courses);
- a significant intensification of interaction with students outside extracurricular time;
- the possibility of effective organization of collective forms of educational activities.

Kergilova and Sazonova (2017) published the results of the study in the field of the generalization of the experience of the psychological-pedagogical faculty of the Gorno-Altai State University on the use of the “Vkontakte” social network for organizing students' independent work. At the same time, a specially created group “Pedagogy and Not Only” was used. The authors identify a number of advantages that provides the use of specifically created tools within the framework of social networks:

- the virtual space of the social network serves as an environment for informal interaction between teachers and students, thereby ensuring the continuity of the educational process;
- the presence of a separate thematic group within the framework of the social network enables students to jointly create network content for academic purposes (including dictionaries, articles, discussions, libraries);
- a specially created group within the social network allows students to build and visualize individual learning paths.

Currently, there are various platforms for creating social networks that can be used in the educational process. Some educational software products (such as the latest versions of the Moodle course management system) implement many social media technologies. For example, for many learning management systems there are various social spaces, such as blogs, groups, pages of participants and discussion forums (Casey, 2013). Since almost all platforms support approximately the same set of services, it can be argued that the approaches we offer are universal, invariant with respect to a particular platform.

The range of scientific publications in which empirical material in the field of the use of social media in education is analyzed is very wide, both in foreign and in Russian pedagogy. Thus, in the study of Raitman, Augar and Zhou (2005), devoted to the problem of using Wiki-technologies in the educational process, the data obtained by the authors on the basis of the experiment, characterizing the effectiveness of such use. In particular, 85% of students participating in the experiment, noted the simplification of educational

communication; 70% gave a positive assessment of the impact of this technology on the organization of the discussion process of educational material; 67% noted a high level of psychological comfort. These researchers emphasize the positive impact of Wiki-technology on students' motivation. Casey summarizes the practical experience gained by the author during three semesters of using an educational social network in the educational process, primarily in the organization of collective project activities (Casey, 2013). The main conclusion is that in this case any exchange of educational information (both between the teacher and the students and between the students) is greatly simplified (Casey, 2013). Also, Casey especially noted that grading is greatly simplified due to the fact that the teacher can observe the progress in learning results through the blog tool (Casey, 2013). The same tool contributes to the development of educational reflection in students.

In the work of Zhumabayeva & Brimkulov (2018) experience of modern Kyrgyz pedagogy is characterized by the following quantitative parameters. The use of gadgets in the learning process is considered effective by 87% of teachers and 92% of students, while 47% of teachers and 34% of students use cloud technologies in practice (Zhumabayeva & Brimkulov, 2018). On the question of the need to use social networks in the educational process, 93% of teachers and 85% of students answered positively; 67% of teachers and 59% of students believe that social networks are oriented towards learning (the rest 33% and 41% respectively believe that they are more oriented towards free communication). The most popular educational resources in the Kyrgyz language are electronic dictionaries and reference books and electronic libraries. The main conclusion is: "98% of respondents are registered on social networks; all survey participants use social networks for communication and self-education; research participants consider it possible to use social networks in universities as a means of interconnection in the framework of the educational process" (Zhumabayeva & Brimkulov, 2018).

The findings which are presented in the work of Moglan (2014) are extremely interesting in our opinion. It describes the results of the experiment to ensure students' access to information resources of a particular discipline and the subsequent exchange of information between students and the teacher due to the presence of special network tools (such as forums, blogs, social networks, email, etc.). In the framework of the experiment training of the control group was based on traditional teaching methods (reproductive, explanatory, illustrative, information-receptive). As part of the experimental group, an "educational network community for the Internet support of the educational process" was created. The experimental group used the "information resource method" along with traditional teaching methods. The main idea of these method is to "consolidate and expand theoretical knowledge by orienting the student in a huge amount of the most diverse information that he needs and satisfies his cognitive needs" (Moglan, 2014). The results of the experiment: in the control group, 15% of students entered the creative level of learning and cognitive activity, 26% went to the interpretive level, 58% went to the reproducing level. In the experimental group: 28%, 52% and 20% respectively. The author makes the following conclusion: "The results of the evaluation of the educational and cognitive activity of the experimental group during the educational process using the educational network community showed a significant decrease in number of students with a reproducing level of educational and cognitive activity (20% of students) and an increase in the interpretive and creative level (52 % and 28% of students)" (Moglan, 2014).

In the study of Belko, Zykova, Kuznetsova, Kytmanova, & Tikhomirov (2016) the results of an experiment on the use of e-learning courses (on the Moodle platform) in organizing students' independent work are given. The vast majority of participants in the experiment (88%) were in favor of maintaining traditional forms of teaching in parallel with the e-learning course. The participants of the experiment identified the following advantages of the e-course: "all the necessary material on the discipline is "assembled in one place"; free access at any time and practically unlimited amount of time to study both lecture and practical material; high speed of checking answers when solving problems; possibility of self-control of knowledge of discipline topics; visibility; convenient (electronic) form of work" (Belko et al, 2016).

Analysis of teachers' views on the possibility of using information services on the Internet in higher education conducted by Pecherskaya & Karaseva (2016) showed a clear predominance of social networks over the Moodle distance learning system as a means of organizing education. In general, social networks

were called the preferred by 60% of respondents, Moodle – by 30%. “A much larger number of teachers are ready to use social networks in the educational process than the Moodle” (Pecherskaya & Karaseva, 2016).

Ivanushkina, Ivanushkina, & Shchipova (2016) in their work presented the results of the analysis of students' views on the possibility of using social networks in the educational process (subjects of study were students of secondary vocational education institutions). According to the results of the survey, “using chat for group work” was called as the most popular form (41.3% of respondents), followed by “performing term papers and abstracts using Wiki technologies and publishing posts” (34.8% of respondents), in third place – “viewing presentations and video materials” (32.6% of respondents) (Ivanushkina et al, 2016).

It can be noted that the opinion of the subjects of the educational process on the role of social media was to a large extent the object of the examined studies. However, there is also practical experience of their use, both of the social media specially created for didactic purposes and non-specialized ones. All the considered studies show in general that it is premature to raise the issue of using social media in education as a mono technology. Social media in education should be combined in a certain way with traditional approaches and tools. To ignore such a powerful didactic tool is impractical, however. The considered approaches allow us to realize the opportunities mostly absent in traditional education, for example, the implementation of collective types of educational activities by groups consisting of students from different municipalities or even regions.

Research Method

In the research the following complex methods were used: study and analysis of pedagogical literature, a comparative analysis of the experience of using social media in education, sociological surveys and interviews of students and teachers. This research is mostly a qualitative study, although some numerical data was collected. The study took place from September 1, 2016 to December 31, 2018 (Smolensk State University) with the participation of 63 master students of educational program "Teacher Education" ("Educational Management" program).

Findings

As a leading principle of developing a model, we consider the principle of intermodality (Boyarinov, 2018), according to which every student should be given the opportunity to engage in various forms of activity, both specifically educational and, more broadly, social. The theoretical analysis revealed the following leading points: the appropriateness of using specially created networks, the crucial importance of quick access to information (“in one click”); using full-text search as the main search tool. The main components of a social network are: “groups”, “blog” and “my page”. In this case, a significant role is played by means of motivation and providing feedback, to which special groups belong. These groups should include the following minimum required set of elements: heading; main text field; a set of discussion forums; wall comments.

Created in accordance with these theoretical principles, the training course on the material of the discipline "Organization of Life Long Learning" on the Moodle platform was used in teaching master students of educational program "Teacher Education" ("Educational Management" program) from September 1, 2016 to December 31, 2018. In the course of the study of reflection, master students study experience using social media asked the following questions:

- What is the leading positive factor in using social media?

52 of respondents (83%) named extension of communication; 47 respondents (75%) named psychological comfort.

- Does the use of social media contribute to the intensification of interaction with the teacher?

58 of respondents (92%) give positive answer; the rest gave a negative answer.

- Does the use of social media improve the visibility of the presentation of educational material?

14 of respondents (22%) give positive answer; the rest gave a negative answer.

- Does the use of social media help to personalize the learning process?

48 of respondents (76%) give positive answer; the rest gave a negative answer.

- Does the use of social media contribute to the realization of collective forms of education?

51 of respondents (81%) give positive answer; the rest gave a negative answer.

- Is the social media environment familiar and comfortable for you?

61 of respondents (97%) give positive answer; the rest gave a negative answer.

- Is it necessary to preserve traditional forms of education in the conditions of using social media?

55 of respondents (87%) give positive answer; the rest gave a negative answer.

It can be noted that the assessment of the effectiveness of the use of social media in pedagogical education depends on the duration of the student's work in such conditions. The longer the duration of such work, the higher the score. According to the respondents, the main factor contributing to the high efficiency of using social media in training is the presence of experience in social networks activities outside the educational context. At the same time, the relevance of traditional forms of education is preserved, but the area of their use is reduced somewhat.

Discussion

On the grounds of the data obtained by us in the process of research and taking into account the results of other researchers who have developed questions about the role of social networks in the pedagogical context a number of theoretical conclusions can be made. We consider the principle of intermodality (Boyarinov, 2018) as the leading principle of developing a organizational and pedagogical conditions for the effective use of social media in pedagogical education. In accordance with these principle each student should be given the opportunity to engage in various forms of activity, both specifically educational and, more broadly, social.

We believe that it is advisable to use specially created networks in the educational process, rather than trying to rely on the spontaneously established structure of participation of students and teachers in various networks. Social networks have significant pedagogical potential, while its effective implementation depends on the competent development of technical issues. A very significant role is played by the speed of access to the necessary content within the network. Casey, in her research on the basis of extensive experimental material, established a rule of thumb. According to that rule it is extremely important, whenever possible, to provide access to necessary information within the social network "in one click" to prevent frustration and decline of students' motivation (Casey, 2013). She repeatedly stressed the importance of quick access links for ensuring successful interactions of students with each other and finding the necessary educational information: "the projects (involving collective work) did not succeed because the number of interactions was so large that specific content was difficult to find. Projects also were not successful if the interaction of their performers was limited and, therefore, the discussion was not deep enough" (Casey, 2013).

One of the main potential problems in the application of social media is the difficulty in finding information. First of all the search should be organized by full-text query. Other search mechanisms are significantly less effective in such conditions according to Casey's experience (Casey, 2013). The structure of social networks should provide users with convenient, fast and structured access to information so that the projects they implement can cope with a significant amount of information generated. Solutions to the noted problem related to the reduction of information contained in the network are unacceptable, because while there is a significant reduction in the effectiveness of training activities.

These considerations lead to the following conclusion: certain changes of emphasis are needed in the projected social network. Components such as "groups", "blog" and "my page" should be the main ones, since they provide the exchange of basic information in the process of implementing projects involving group work.

The effectiveness of groups as a tool for organizing work, in our opinion, is due to the following factors:

- discussion groups are the best means of organizing the learning interaction of students in the framework of the topic being studied;
- groups allow any interested person (teacher for example) to review the student's interests, their

orientation and dynamics of change.

We believe that the effectiveness of blogs in the pedagogical context is due to the following factors:

- blogs represent a more convenient format for students to publish the results of their learning activities compared to forums;
- blogs are an effective student' proficiency control tool. In this case, they are an essential element of the student's e-portfolio;
- blog comments are usually easily accessible and, therefore, more manageable;
- quick access to the "blog entries" section is easy to organize from the "my page" section;
- quick and easy access to the blogs of other students can also be easily organized;
- blog is also a convenient tool for individualizing of the learning environment.

We propose to provide the link between the components of the "group" and "blogs" by a fairly traditional way. At the heart of each social network should be a page that belongs to a specific member of the community – this is so-called "my page". Such a page contains links to groups, blogs, pages of friends on the Internet, home pages, etc. From a didactic point of view, it contains a comment area in which other participants of social media (students and teachers) can post any types of content. It is important as a tool for providing the learner with quick links to their friends, groups, blogs and other materials that they have created during the learning activity. The "my page" component is the central, key element in the social media architecture that we propose as the model of use of social media in pedagogical education. Also, this component serves as a key means of communication of other subjects of learning environment with this student. The "my page" contains and allows you to quickly find links to the content of this person.

Since the concept of the use of social media in pedagogical education involves automated, as far as possible, the collection and processing of information regarding the dynamics of personal development and academic performance of the subject, let us highlight the capabilities of the element "my page" in this regard. The main information that is contained in this component and can be automatically processed is:

- the data contained in the "last activity" section for the participant in question;
- links and information regarding the content created earlier by the participant in question;
- options available only to the administrator of the system.

Section "my page" contains data demonstrating the activity of an individual participant. It reflects the information about the strength and direction of information flows connecting individual students, trainees and teachers, students from various educational groups and various academic subjects. A substantial share of such information cannot be obtained within the traditionally organized educational process as our experience shows (Boyarinov, 2018; Emelchenkov, Boyarinov, & Kozlov 2011). The survey of G. Casey corresponds well with our considerations (Casey, 2013). Note also that the information contained in the relevant sections of the social network can be automatically collected and processed.

In addition to sections that are directly related to educational activities, the model we offer also implies the availability of tools for motivation and providing feedback. The creation of special groups is provided for this purpose. Such groups should be compact and contain the minimum necessary set of elements:

- title, reflecting common information;
- the basic text field in which one can add desired information;
- a set of discussion forums;
- a wall of comments, where anyone (student or a teacher) can leave a message if required.

These are the basic requirements for building a social network as a learning tool in pedagogical education. The proposed model will allow individualization of the learning environment (due to such tools, in particular, "my page", "blog", "group", etc.), which will give students the opportunity for creative expression in learning activities. Students will gain opportunities to implement personalized feedback (from peers and teachers), create their own groups and discussion forums to share knowledge and create new knowledge based on their interests. Students will also receive a tool to get acquainted with specialists from different subject areas, as well as with representatives of other educational institutions.

Our proposed model of using social media in pedagogical education also allows us to achieve an indirect effect. This effect is about the impact on those who do not participate directly in the learning process. Students will serve as models of social behavior for their peers due to the interactive and open

nature of social networks. It will increase the number of subjects in the educational space. Peers who experience such an impact will actually be in the conditions of informal education (Boyarinov, 2018).

Conclusion

Organizational and pedagogical conditions for the use of social media in pedagogical education, based on the principle of intermodality, allow us to individualize the learning space, which expands the possibility of creative self-expression in learning activities. Students receive opportunities to implement personalized feedback (from peers and teachers), create their own groups and forums for sharing information and creating new personally significant knowledge, tools for interacting with specialists from different subject areas and professional sphere. In this case, an indirect effect is also achieved – an impact on those who are not directly involved in the educational process. Due to the interactive and open nature of social networks, students serve as models of social behavior for their peers, which contributes to an increase in the number of subjects of the educational space. Peers who are experiencing such an impact, in fact, find themselves in the conditions of informal education.

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