Formation of Communication of Educational Institutions Using Social Networks

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Abstract

Objective: The article is devoted to studying the theory and development of social networks' practical aspects in the educational institutions' communication system. The relevance of the research is formed by the growing interest in social networks among young people and the problem of ineffective, outdated teaching technologies that have little involvement among students. The study aims to develop recommendations for social network use in a comprehensive educational institution's communication system.

Methods: To solve the question, SWOT analysis, grouping, data analysis, synthesis, and generally scientific methods of induction and deduction are used.

Results: The study's results are 1) identification of the student's predisposition to gain knowledge in social networks; 2) identification of effective ways of presentation and educational information; 3) identification of strengths, weaknesses, opportunities, and threats of social networks in the educational process; 4) assessment of the technological possibility of implementing social networks in the educational process; 5) assessment of the possibility of applying different information types for effective communication; 6) a list of recommendations for the implementation of social networks in the overall educational communications system.

Conclusions: The novelty of the study is formed by a set of relevant recommendations. The practical significance lies in the implementation of the recommendations in the different countries educational systems.

Keywords: social network, education, communication, Facebook, Instagram, Twitter

1. Introduction

The popularization of social media in the educational process has occurred mainly due to the development of mobile technology (Akeriwa et al., 2015). Today, it isn't easy to imagine a modern student of a developed or developing country without a smartphone, which is used as the main communication tool. Moreover, mobile technology allows instantaneous information and feedback, which is the main advantage of mobile technology over computers or television. Along with this, the main technological tool of the communication system today is social networks.

The topic's relevance is related to the increasing interest of society in social networks, as their entertainment format involves more and more young people around the world. But, unfortunately, the entertainment social networks format does not contribute to the formation of a serious approach to learning on the part of students, so many teachers do not consider social networks as the leading educational format of interaction with students. At the same time, given that students spend most of their time on their phones, not using this modern information format is detrimental to the institution's reputation and the instructor. The younger generation perceives social networking activity as being active in life. At the same time, the lack of such activity is perceived as outdated and out-of-date approaches to teaching different disciplines.

This dilemma is a major unsolvable problem that can only be mitigated. Since it is impossible to completely switch the educational process into social networks and, consequently, into an entertainment format, it is possible to make education interactive, creative, and modern if social networks supplement it. It is very important to maintain a balance between creativity and educational standards. Educators are trying to apply social media tools to the learning

process to understand the importance of social media for young people. Choosing the wrong social networks, interaction channels, and information types contributes to the problem, while the right ones allow the student to engage in the educational process fully.

Today, social networks are an effective tool for personal communication within educational institutions. They are also well perceived as a tool for rapid notification, and informing about important events, and are an element of PR of the educational institution. But can social networks be used not only for correspondence and advertising but also as an educational platform - this is a question that requires further research. This question will also be the basis of the hypothesis put forward to prove the possibility of using social networks to organize the educational system.

The study aims to develop recommendations for using social networks in the education institutions' communication system, taking into account their development trends. To achieve the goal, it is necessary to solve the following tasks:

- to evaluate the use of social networks among students and identify the student's predisposition to gain knowledge in social networks;
- find the most effective information distribution channels and types of information;
- determine the strengths and weaknesses of social networks in comparison with traditional ways of learning;
- assess the possibility of implementing social networks in the educational process;
- evaluate the possibility of using different information types for training purposes;
- recommend ways of social networks implementation in educational institutions' communication systems.

2. Literature Review

The social networking phenomenon is sufficiently studied in the scientific literature. In the early stages of social network development, many works were devoted to defining their concept and importance for society. In particular, Safko & Brake (2009) define social networks as a place on the Internet where a certain number of people gather to exchange information, thoughts, and knowledge. In recent years, social media has been used by individuals and the public for various purposes. While social media was created for entertainment, today, it is a place to conduct business and, of course, a platform to learn or share new information. As the most common channel for information exchange, social media is now used for informal and formal learning.

Researchers around the world, particularly Leonardi, Huysman & Steinfield (2013), Montebello & Camilleri (2018), Aleksandrova & Parusheva (2019), Salem (2020), Yevtushenko (2021), have shown the importance of social media for higher education as higher education communication systems. Bélanger et al. (2014) showed the importance of social media for higher education institution branding in Canada. Beqiri, G. (2014) studied the use of social media in Kosovo. The author shows that it is essential for higher education institutions to use e-mail correspondence and communications through Facebook and Google+. Polish authors Maslankowski & Brzezicki (2020) believe that in Poland, the social media potential is not used to the fullest extent because the leading communications through social media are conducted only to inform students about different activities placed within the institution. During the analysis of similar studies, the results of the following Ukrainian authors' scientific works were examined:

- Balabanova & Vakariev (2013) investigated the role of social networks in the teacher's professional activities at the university;
- Bodnenko (2012) investigated the possibilities of social networking for training future journalists;
- Ivashnjova (2012) on the use of social services and social networks in education;
- Kostikova (2018) on the training of students in English using modern technologies;
- Yatsyshyn (2014) on the use of virtual social networks for the needs of general secondary education.

This literature analysis proves the possibility of using social networks in Ukrainian educational institutions for different specialties, which confirms the relevance of the issue for the world and Ukraine. Moreover, the topic has been especially popularized today, when in the conditions of distance education through quarantine restrictions, all educational institutions are looking for new approaches to the organization of education and improving its efficiency (Bao, 2020). Thus, the task of these researchers is to identify the main advantages and disadvantages of social networks in the education system and anticipate the prospects and threats of social networks in the educational process.

Social networks are innovative and advanced technologies that are constantly transforming. Because of this circumstance, many studies from five years ago become irrelevant, as some social networks are losing their potential, some are closing down completely, and some, on the contrary, are rapidly gaining momentum. For quite some time, Facebook has been considered one of the most progressive platforms, which corresponds as much as possible to the established educational methods and technologies. However, Bista (2015) and Asghar et al. (2018) believe that Twitter is most appropriate for communications. In recent years, education through Instagram and YouTube has been mainly activated as the main informal education channels. Romero-Hall (2017) researched the effectiveness of different channels for different educational purposes. He showed that all social networks have their advantages and disadvantages, so there is no one-size-fits-all solution to education and communication through social media. Since this study was conducted five years ago, it will be relevant to update it with current statistics, which will be done in the present study.

But undoubtedly, social media had before and now many advantages over traditional methods of education. Montebello & Camilleri (2018) identify three essential components of social media that are important to the educational process in higher education. First, connection, communication, and participation are important parts of interacting with the community, working as a team, and building effective teams. The second component is inquiry and engagement. They teach future professionals to solve problems independently, find solutions to difficult situations, and implement them in practical settings. The third component of creativity and authorship is one of the most critical factors that allows students to unlock their creative and innovative potential and form the tools, methods, ways, and conditions for society to develop.

If we approach the issue intelligently, considering all the advantages and threats, social networks can be used for different purposes. In particular, Leonardi, Huysman, & Steinfield (2013) show that it is possible to use public channels of information dissemination, and it is possible to use closed ones. In addition, individual correspondence with the student can be used if necessary. Salem (2020) researched social media in the context of different types of information students perceive for educational purposes. The author believes that social media forms an innovative approach to learning and calls such information a brand of education because it is super popular. So it is because textual information is combined with pictures, videos, links, and the possibility of comments, which students willingly do, unlike traditional education methods.

At the same time, the new question remains whether social media can be used for effective learning, not just correspondence between staff, and students, branding of the educational institution, and publishing news. In other words, there is a question of whether it is possible to use the full potential of social media to create an effective communication of different levels and orientations.

3. Methods

Because the analysis of social networks in the system of communication educational institutions is regarded as an innovative process of education, its analysis will be conducted in the context of competitive analysis with traditional channels of education. For this purpose, the SWOT analysis method will be applied, which allows identifying the strengths and weaknesses of social networks in the educational process and their advantages and threats.

These conclusions and recommendations will be based on a critical review of scientific literature, which researchers from different countries present. Also, for the statistical study, publications from open sources are used and presented in graphical form to show data processing results in a systematic, consistent, and focused manner. This data is collected from sociological surveys, which different companies commission to study the effectiveness of the use of social networks in educational institutions.

To provide the study results, the methods of grouping and sorting, determining the most significant, and smallest value, and averages are used. General scientific methods of knowledge allow the synthesis of information and summarize it in the SWOT analysis format. The methods of induction and deduction enable the formation of conclusions and recommendations for effective communication channels within educational institutions.

Based on the results of the scientific research study, the authors propose applying the developed methodology of analysis, which is based on the proposal of different communication formats and various information types to address communication issues of educational institutions.

4. Results

In 2021, 53.6% of the world's population used social media, with the younger generation forming the bulk of the audience (Yevtushenko, 2021). Social media audiences are constantly growing, not so much geographically scaled as they are transformed from one technology to another, attracting new audiences. Today, most social networks in the world are represented by American projects, famous worldwide except in China. As seen in Figure 1. the number of Facebook users in 2021 was 2.7 billion (DreamGrow, 2021). The second most popular social network is YouTube (Figure 1).



Figure 1. The Most Popular Social Networks in the World in 2021

Source: DreamGrow (2021)

The rapid development of this sector has very quickly brought to market Chinese social networks, which were initially developed for the Chinese population to restrict pro-American information. But a few years later, applying new concepts and technologies, they quickly expanded to a global scale. For example, if in 2021, the number of TikTok users was 0.7 billion, the developers plan to double their audience in a year (Yevtushenko, 2021).

It should be noted that social networks worldwide cover a large number of interests. Of course, most people, particularly the younger generation, choose platforms for entertainment. Each social network can determine the sphere of activity of its audience to provide statistical data about the spheres of activity. According to statistics, those people who come to get new information and have fun on social media follow influential people. On Facebook, such an audience is estimated at 0.19% of users. On Instagram, such an audience accrues 1.42% of users, and on Twitter, 0.036% of users (StatusBrew, 2021). At the same time, each social network has its audience and its most common topics. An analysis of the statistical data provided on the StatusBrew website shows audience coverage segments by subject (Figure 2).

If we determine the average reach on the social networks Facebook, Instagram, and Twitter, we can conclude that higher education is the most widely used topic. Students from different countries spend quite a lot of time on social networks to get information about programs of study, take courses, and, of course, organize communications among themselves (Figure 2).

According to StatusBrew, the most significant educational audience is Instagram, at 3.19%. On Facebook, this audience is estimated at 0.14%, and on Twitter, the audience is estimated at 0.08%. The average indicator is 1.14%, which is the highest use of social media for educational purposes. It confirms the relevance of the study that, indeed, social media is one of the most convenient communication channels among students, which is organized independently, without institutional influence, that is because students use social networks in their free time. They have formed a circle of communication between classmates, so communication on various topics, including learning, is public and habitual for everyone (Jaffar, 2014).



Figure 2. Involvement of Audiences on the Most Popular Social Networks

Source: StatusBrew (2021)

Today, students are ready to receive an education using social media. They are most predisposed to receive educational information via Instagram, that is, in the picture (video) and short text format.

Since social networks are built for entertainment, not education, their readiness to become a formal secondary or higher education platform should be investigated. Although Facebook gathers the most influential audience globally, U.S. youth ages 13 to 34 choose Snapchat as their primary communication medium. The platform doubled its audience in 2020, displacing Facebook, Twitter, Instagram, and TikTok among young people (Visual Capitalist, 2020). Thus, the absolute leader among social networks for the student for communications is Snapchat, which was used by 74% of U.S. students in 2019. Slightly behind are Instagram and Youtube. Their audience is 69% (Figure 3).



Figure 3. Most Used Social Media among Students for Learning Purposes

Source: Joly (2018).

Thus, it is convenient for students to use accessible social networks to communicate with text. Therefore, they will look for applications like Snapchat - individual correspondence, and group chats. An alternative communication system in some countries, including Ukraine, is Viber. At the same time, the format of video lessons provided by YouTube and pictures with small text provided by Instagram is the most convenient for teaching students.

If we evaluate global trends, we can point out that Facebook is losing its youth audience despite the increase in audience reach. For many of today's students, Twitter is also a platform that remains out of focus. It should also be noted that LinkedIn, as the main communication channel for the professional audience, is also of no interest to social

networks, that is since different social networks provide a different information format, which is adapted to the interests of a particular audience. For current students, information in the picture (video) and short text format is most receptive. It is essential for undergraduates and high school students. For 81% of first-year students, such information is the most readable, understandable, and accessible. On the other hand, older audiences are more receptive to the video format (Figure 4).



Figure 4. The most effective sources of information for students

Source: Joly (2018)

Links to websites or other sources of information are considered the least informative. It is also necessary to denote that the format of short videos is currently the most effective for educational purposes. Evaluation of statistics from social networks has shown that if the video is less than a minute, it is fully listened to by 68% of people, which is a high indicator of effectiveness. And users' attention shifts after 8 seconds of the video, so videos are dynamic enough to gather the audience's attention (Yevtushenko, 2021). In this context, the question of how realistic it is to organize educational information in this format for universities and teachers arises.



Figure 5. Most Read Information on Facebook Students

Source: Joly (2018)

Teachers do not do it because effective learning in the format of quick videos would be pretty problematic in terms of creating such content. Thus, social networks worldwide are used not for learning material but for communication

and getting different background information. In particular, if we evaluate the social network Facebook, which according to many teachers and scholars (Jaffar, 2014; Woodley & Meredith, 2012; Wang, 2012). Siti et al. (2017) is considered one of the most adapted to student communication processes, the main content viewed by students is: dorm life, dorm review, and education programs for the session. Moreover, lessons on specific courses are read by 41% of students on this social network (Figure 5).

That being said, social media has a reasonably non-traditional two-way communication format where students may not respond but simply respond to the information they receive with one click. Liking is one of the most common reactions used on social media for educational purposes (Figure 6).





Source: Joly (2018)

Students are also willing to join groups created by other students or professors. Twenty-two percent of students are ready to comment on material, and 21% are ready to spread the word to their friends. However, 17% of students will not respond to the information in any way.

It should be noted that today most educational institutions have pages on Facebook, Instagram, and Twitter and maintain one-way systems for notification of news and announcements of events. However, real examples of using the full potential of social networks are difficult to find, because working in social networks requires management: planning, organization, motivation, and control.

It is possible to make their SWOT analysis to study the advantages and threats of their use in the educational process compared to traditional channels of educational information and identify potential opportunities and threats considering all advantages and disadvantages of social networks.

Table 1. SWOT Analysi	of Social Media Usage in the Educational Institutions' Communication System	

Strength	Weaknesses			
 Group activities for students Quick and effective discussion of issues Quick information about the educational process organization Different data collection methods - surveys, voting, forums Continuous interaction between student and teacher Realization of students' creative potential Possibility of learning in a distant format 	 1) The users' anonymity makes it impossible to identify the students who received the information 2) The users' anonymity does not allow for maintaining a constant order in the group, so provocations are possible 3) The nonobligatory nature of the response to information does not allow us to understand the assimilation level of information among students 4) Dependence on the technical equipment of the educational institution, in particular, Wi-Fi 5) Dependence on the modern smartphone in the student 6) The difficulty of creating lecture materials in the format for 			

Opportunities	Threats			
1) creation of methodological materials in the format of a picture + a short text to present information in an accessible	1) reduced subordination between the student and the instructor poses a threat to the instructor's influence			
way;2) recording videos to present information, online lessons can	2) lowering the knowledge level without face-to-face supervision			
be a means of obtaining additional funding for the institution or teacher;	3) creation of all available videos may reduce the scientific-educational level4) additional load on the nervous system of a student may adversely affect the physiological development of the			
3) attracting industry experts to the lessons through remote communication channels;				
4) increasing interest in the higher education institution	individual			
through the use of modern teaching methods; 5) critical and creative presentation of information	5) increased security in social networking can make a student vulnerable to social media			
	6) the development of a space for dishonest learning and cheating			

Source: compiled by the author

Considering all the positive and negative aspects and the prospects and threats of education in social networks, let us consider the possibility of providing educational services using social networks. Let's assume the possible interaction format between the teacher and students in different social networks (Table 2).

Communication Format	Application in the educational process
Open group, where everyone discusses the information flow generated by the instructor and the student	Creative assignments for students - reporting on the work done and further discussion of all those not involved in the educational process
A closed group, where participants discuss the information flow generated by the instructor and the student	Creative assignments and work results within a particular group, an opportunity for discussion among classmates
An open page where the instructor organizes the information flow and everyone reacts to it	Useful, additional or educational information from the lecturer on the lecture topic, an opportunity for discussion among all comers
A closed page where the instructor orchestrates the information flow and added users react to it	Lecture materials, additional information on the subject, organization of communicative processes using comments, grading of discussion activity
Closed group chat	News updates, homework assignments, student-teacher communications
Private messages	Personal assignments and communications between students and instructor

Source: compiled by the author

Given that it is essential to apply different information types in the educational process, let us identify the main ones represented by social networks and describe how they can be applied in the educational process.

Table 3. Using Different Information	Types to Present Educational Material
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Type of information	Educational applications
Short videos	Instructional videos on how to do a particular task or find information
Long videos	Lecture materials
Long text with pictures and video	Lecture with examples and practical applications
A large number of images or videos	Research topic info-graphic material
Collecting data - poll, voting, forum	Case studies

Source: compiled by the author

It is important to note that the short video format is only used in TikTok. It will be effective not for the primary information but for additional information. Long videos are mostly published on YouTube, the most popular social network. These videos can also be published on Facebook. Long text with pictures and videos is only available on Facebook. The information format will not be convenient enough because the social network options are not provided to publish an image and video under a particular paragraph of the text. So the information is provided in this way: first visible are photos and videos, and then you can read the text (Table 4).

Table 4. Availability of Communication Formats and Support for Different Types of Materials in Different Social

 Networks

Communication format and types of materials	Facebook	YouTube	Instagram	TikTok	Twitter	Viber
Open group, where everyone discusses the information flow generated by the instructor and the student	YES	NO	NO	NO	NO	NO
A closed group where participants discuss the information flow generated by the instructor and the student	YES	NO	NO	NO	NO	NO
An open page where the instructor organizes the information flow and everyone reacts to it	YES	YES	YES	YES	YES	NO
A closed page where the instructor orchestrates the information flow and added users react to it	YES	YES	YES	YES	YES	NO
Live streams	YES	YES	YES	YES	NO	NO
Closed group chat	YES	YES	YES	NO	NO	YES
Private messages	YES	NO	YES	YES	YES	YES
Short videos	YES	YES	YES	YES	YES	NO
Long videos	YES	YES	NO	NO	NO	NO
Long text with pictures and video	NO	NO	NO	NO	NO	NO
A large number of images or videos	YES	NO	YES	NO	NO	NO
Collecting data - poll, voting, forum	YES	NO	YES	NO	NO	YES

Source: compiled by the author

If higher education institutions decide to implement social media into the educational process, the following should be considered:

1) easy solutions are needed to organize communications among the educational institution's staff, which should inform them about news and changes without spending a lot of resources. In this context, Twitter is the most effective social network for organizing one-way communication with "administration personnel." But since this application is not popular among students, it makes more sense to manage two-way communications through closed chats, and Viber or Snapchat can be considered universal platforms for this.

2) to organize communications between the educational institution administration and clients (future clients), it is advisable to choose the most common social networks used in certain regions. A standard solution is to have an open page on Facebook and Instagram to publish news, achievements, and event announcements. Given that the primary school audiences are students and their parents, active Facebook users, such materials should be published simultaneously on two platforms with the business application.

3) to organize communications between the teacher and students, it is helpful to choose those social networks that meet the developed teaching methodology. For example, considering that the most common social network among young people is Instagram, educational materials should be prepared in the format "pictures + a short text for 5 minutes of reading". At the same time, if an experimental academic format is planned that considers the collection of people's opinions not involved in education, such groups can be public. In addition, if lecture material is developed in video format, it can also be published on YouTube to earn or promote a higher education institution.

4) since Instagram is one of the most common social networks among young people, it should be used as an additional channel of information and as the main one. At the same time, the system allows you to organize the channel communication between the users involved.

5) Tiktok is little adapted for the communication organization between the teacher and students. However, this social network can distribute announcements in a short video format or post valuable hints. In addition, this system can be used to organize additional information.

6) For individual correspondence between a student and an instructor, it is advisable to use one communication channel, which is used to provide information. In particular, it can be correspondence on Instagram. It is essential to respect the correspondence time and establish a clear schedule for answering questions or receiving homework.

Thus, although Facebook is technically the most adapted for the educational process among other social networks, it can not realize its full potential through the low level of audience engagement. So it remains only an additional means of information and presentation page of the educational institution.

5. Discussion

Social networks have been considered innovative learning technologies for quite a long time. But most researchers believe that social networks are suitable for informal learning, which is not regulated by ministries of education. Balabanova & Vakariev (2013) believe that social networks can be an effective tool for self-education at different levels

1) at the level of the individual:

- acquiring new knowledge without attending classes at school, or institute, courses;

- access to personal information of interest (books, audio, video, photos, magazines, newspapers, etc.) in different areas;

- awareness in the world of scientific events and discoveries;
- the possibility of publications;
- discussion of scientific issues and not only;
- full democratization in the choice of updating knowledge (on their interests, rather than developed programs);

2) at the level of the organization providing educational services:

- The possibility of exchange of experiences between educational institutions;
- the possibility of publishing scientific works;
- discussion of issues related to the performance of functional responsibilities and not only;
- rapid exchange of information between members of the organization that are members of social networks;
- professional development, career development.

3) at the state level:

- Savings in the preparation of a qualified labor market;
- a tool for professional development;
- a tool for developing digital skills (Balabanova & Vakariev, 2013).

According to the literature analysis (Balabanova & Vakariev, 2013; Bodnenko, 2012; Ivashnjova, 2012; Kostikova, 2018; Yatsyshyn, 2014), we can conclude about the relevance of social networks as innovative pedagogical methods. But at the same time, these authors believe that for the implementation of these technologies in the current system of education, it is necessary to organize the renewal of ways, forms, methods, means, and teaching techniques on the teachers', higher educational institutions, and, of course, educational programs' side at the level of the regulator. It is essential to reform the education system toward creativity, independence, and innovation, making compulsory education more engaging. But this process is long and time-consuming and cannot be implemented quickly. Strict and established rules and standards of education do not allow us to be flexible about new trends in social networks, so the practical implementation of the possibility of an integrated approach to communication within the educational institution remains utopian.

It should also be noted that not all scholars believe that social networks can be an effective tool for education. In particular, Lemoine et al. (2021) put forward several risks that arise when transferring education to the format of social networks. With the public use of social media, the privacy of a student who would not want to participate in discussions for personal reasons is forced to do so to get grades or scores (Aymerich-Franch & Fedele, 2017) may be

compromised. Social media education is also problematic for higher education institutions (Amin & Rajadurai, 2018) because such work cannot be controlled, and an overly creative process will not meet the developed educational standards. Awais (2021) believes that social media can be used as a tool to promote higher education institutions, but it will not be successful when integrated into the educational process.

6. Conclusions

We can conclude that social networks do not have enough tools for education to be safe, effective, and meet international education standards. To form convenient communication channels, it is necessary to apply several social networks at once, which is often quite an inconvenient process to implement in practice. In addition, the preparation of the program and its adaptation to the format of social networks requires a lot of resources from teachers, educational institutions, and educational regulators. Given that Facebook is losing its youth audience every year, this platform is still considered the most technically adapted to the educational processes, so there is a conflict of interest between the teacher and the student. Thus, the social networks' implementation in the practical communication processes should be competent and convenient for all participants in the process. Today, it is most useful to change the official communication format provided by Facebook to the more entertaining form offered by Instagram. If the institution has decided to organize such social processes, they should be coordinated at all levels to make no conflicts, duplication, or loss of certain information. Easy channels of information dissemination in Viber can be used for partial communications between teachers and administrators. For an educational platform using online lectures, it is advisable to use Instagram with duplicate content on Facebook. It will be good to use other social networks for informal interaction with students.

Thus, the practical value of the study is to prepare a set of recommendations for the implementation of social networks in educational institutions' communication processes. Further research will be related to the study of new educational platforms that contribute to effective and creative distance education.

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