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THE ROLE OF INFORMATION TECHNOLOGIES IN SOCIALIZING AND STUDYING OF RUSSIAN STUDENTS

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Abstract

The article investigates the problem of usage of digital technologies in the educational process by students in modern universities in Russia. The goal of the study is the investigation of the balance of time between purposes of education and socializing for students of Russian universities in the process of communication based on information technologies and discovering of ways to overcome barriers for eLearning. The study is based on the classical interviewing technology, using a survey developed for achieving the investigation goal. The survey consists of 4 sections and 21 questions and was presented in hard copies and on-line version in Google Forms. The total number of responding students was 300 from Murmansk region, St.Petersburg and Krasnodar Territory. The results of the study demonstrate that social networks are used by students in absolutely equal proportions for social communication and professional communication, fifty-fifty. The results are slightly different for students of Master and Bachelor level. The study results confirm the hypothesis that the main barrier in the use of digital technology in education is financial one. The results of the research highlight the important role of universities' ICT infrastructure development for increasing of share of time for using digital technologies in professional purposes. The authors formulated the recommendations to make the barriers for students in the use of digital technologies in education lower.

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Keywords: Information and communication technologies, university students, digital competences, social competencies, new format of education.



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1. Introduction

The process of digitalization in all spheres of human activity which was even named as a digital revolution is a crucial trend in current and future development of the society (Mazzone, 2014; Dych , 2015). Digitalization is changing the business landscape and transforming the whole society. The Social networks and messengers link people across the Globe ignoring official state borders. However, the most important opportunities are laying in the digital transformation of business. Business digitalization is about making all management functions faster and better proposing the data accessible instantly but not only that. It helps to change the entire business creating new services and products. The success of the digital transformation of business depends on the competences of the employees in using information and communication technologies (ICT). The process of basic competencies' formation for the workforce of the digital future is taking place at modern universities. Students are using ICT for receiving and sharing private information, learning materials, just chatting in digital social media, posting and reposting different news and messages.

2. Problem Statement

Thus, we need to know about student's perceptions and approaches to the educational process in modern universities, to know about students' preferences in the usage of ICT tool and channels and their opinion regarding on-line, offline e-learning and face to face meetings and discussions in classes. What is the share of time between different purposes (studying and socializing) in process of communications? There are some studies analysing this problem. The authors of (Kozlov, Kankovskaya, Teslya, & Zharov, 2019) investigate the socio-economic barriers for the development of digital competences of human capital; however, the research is focused on regions of Russian Arctic. According to a studies (Marcelo & Yot-Domínguez, 2019; Morreale, Staley, Stavrositu, & Krakowiak, 2015), the most important factors of the use of e-technologies in the educational process are teachers' knowledge and beliefs, the institutional digital policy at the university and the content of the discipline. The involvement of students in e-learning can be investigated at its two most important aspects: a) as a set of competencies of the future workforce and b) as a set of social effects of digitalization.

Changes in labour requirements are considered in the regional context (Aničić & Arbanas, 2015; Siddoo, Sawattawee, Janchai, & Yodmongkol, 2017; Jandrić & Ranđelović, 2018) and in the professional context (Mesquita, Oliveira, & Sequeira, 2019; PricewaterhouseCoopers, 2019; Kharlamov, Kharlamova, & Koroteeva, 2017; Trostinskaia, Safonova, & Pokrovskaia, 2017).

The investigation of the impact of digital technologies on EC labour market (Jandrić & Ranđelović, 2018) is of particular interest since it indicates a positive relationship between workforce adaptability and current state of digitalization.

The social aspect of digitalization youth' life is very important too. Nelson Laird and Kuh (2005) wrote about a strong positive relationship between using information technology for educational purposes and students' involvement in effective educational practices in 2005 but this problem is also topical in 2019 (Bylieva, Lobatyuk, Safonova, & Rubtsova 2019). Russian universities are actively creating electronic information and educational environment (EIOS) (Ivshina, Ivshin, Polyakova, & Prikhodko,

2020) and it is necessary to identify the professional and social readiness of students for e-learning to increase its effectiveness. Vinogradova, Kulyamin, Larionova, Maloletko, and Kaurova (2016) investigated the trends in the use of digital technologies in the field of educational services for the period 2005-2015, but the last five years are very significant for e-education and it is necessary to continue research in this area. Tokareva, Smirnova, and Orchakova, (2019) present an evaluation of the quality of implementation and organisation of ICT from the point of view of university students, but this survey was conducted only in two groups of students in one university.

In our opinion, this is a timely problem of involving students in e-learning since it is considered as an imperative by the university, without taking into account students' inclinations. Students are not only recipients of digital knowledge. They are using ICT for receiving and sharing private information, learning materials, just chatting in digital social media, posting and reposting different news and messages. What are the students' preferences in the usage of ICT, do they really prefer on-line and offline e-learning or meeting and discussion in classes? What is the share of time between different purposes of studying and socializing in the process of communication? How to support the digitalisation of the educational process and motivate university students to increase ICT use for development of professional competences?

3. Research Questions

The questions to be answered are the following:

Do students prefer to communicate with teachers face to face or using ICT?

Which digital channels of communication are preferable for students?

What are the shares of time which the respondents are using for studying and socializing purposes?

4. Purpose of the Study

The goal of the study is the investigation of the balance of time between purposes of education and socializing for students of Russian universities in the process of communication based on information technologies and discovering of ways to overcome barriers in digital education.

5. Research Methods

The research methods are based on the usage of general scientific methods, such as comparative, content, and systemic analysis and classical interviewing technology, consisting of the following set of actions: (1) formulating the purpose of the study; (2) identifying target groups, in our case, students of Russian universities located at the North, West-North and South of European part of the country; (3) development of a survey comprising 4 sections and 21 questions, publishing the online version of the survey via Google Forms; (4) interviewing of representatives of the target groups; (5) conducting the comparative analysis of the results obtained, particularly based on the geographical distribution of respondents. The total number of respondents was 300 from Murmansk region, St. Petersburg and Krasnodar Territory. Foreign students at Russian universities also took part in the study.

6. Findings

One of the factors that motivate universities to use ICT in the learning process is the need to create students' professional competencies including digital ones. Most respondents demonstrate their readiness to use online resources in their studies. But the share of those who consider this task difficult is fluctuating from 6.25% in the Murmansk region to 15.15% in St. Petersburg.

At the same time, only 11% of students are willing to pay for the purchase of electronic textbooks, research results and other materials they need in the learning process. 30% believe that they can find a sufficient amount of materials in the public domain using online resources. We suggested that the degree of motivation in learning and the level of digital skills should increase as we move to the upper level of education (Table 01).

Table 01. Activity in the formation of professional competencies

Activity	Total	Masters	Bachelors
Active use Internet resources to form professional competencies	42%	56%	36%
Passive, ready to use only at low opportunity costs of access	58%	44%	64%

The Table 01 shows that graduate students are more focused on the formation of professional competencies than bachelors. At the same time, they are not only more willing to pay for access to information resources (17% and 9%) but also have higher skills in finding information in the public domain (39% and 27%). The share of those indicating monetary barriers as a restriction for masters is reduced to 9% (19% for bachelors). The employed of masters probably determines for them not only a relatively lower cost of access but also the greater importance of the formation of professional digital competencies.

It is worth to note that a significant part of students is ready for self-organizing in the use of modern technologies for the gaining of professional competencies, using messengers and social networks for this. Students were asked in the survey to allocate approximately the time of using instant messengers and social networks to professional or social communication (Table 02).

Table 02. Time distribution (subjective assessment)

Criterion	Total	Masters	Bachelors
Social networks			
social communication	50%	46%	52%
professional communication	50%	54%	48%
Instant messengers			
social communication	49%	52%	48%
professional communication	51%	48%	52%

Table 02 shows students associate about 50% of their communication Internet resources time with study (according to subjective estimates). However, this distribution of time seems controversial and not fully objective. Hypothetically the students regard all communications with classmates somehow connected with issues if their studying. The study revealed the fact that only 10% of master students and 3% of bachelors do not use Internet resources for communication.

The conducted research allowed ranking barriers preventing students from active usage of information and communication technologies in studying and for the formation of professional competencies. The survey did not reveal any significant differentiation between regions. The students of all regions distinguished the monetary barriers (high cost of use) as the most significant factor. Among other factors the respondents noted the difficulty of access and inconvenience of using the proposed resources and hostility to the user (Table 03).

Table 03. Barrier Type Ranking

Types of barriers	Ranking results
Expensive to use	1
Access difficulty	2
Inconvenient to use (user-unfriendly)	3
I do not see the need	4
Difficulty of use (need special knowledge and skills)	5
Other (specify)	6

Detailed analysis showed that access complexity is less perceived as a barrier for students of St. Petersburg Polytechnic University, because The University has more opportunities to provide students free access to modern digital resources, including remote, than regional higher educational institutions.

The complexity of use is not evaluated by students as an essential barrier to the development of professional competencies. Thus, the system for the formation of professional competencies of students using (ICT) should be more aimed at reducing the cost of access to modern digital resources, creating user-friendly interfaces and, to a lesser extent, a motivation system for their use. These findings confirm the results in table 04.

Table 04. Motivation to use ICT for the formation of professional competencies, %

The answers	Total	Masters	Bachelors
It seems interesting and uncomplicated	63%	76%	61%
Complicated	12%	6%	13%
Not difficult, but not interesting or time-consuming	22%	41%	19%

The analysis showed that students are highly motivated to use modern information and communication technologies if they are easy to use, affordable and “time-saving”. Only 10% of bachelors and 6% of masters consider additional consultations necessary when connecting a new information resource to the system of forming professional competencies (table 04).

Among the barriers to the active use of Internet resources, students of all regions note monetary as the most significant. But the willingness to use information and communication technologies for training to a greater extent depends on the motivation of students in the formation of competencies.

Noteworthy is the category of those students who are not interested in the use of (ICT) in the formation of professional competencies. In this particular group, the proportion of people wishing to contact the teacher in practical classes is significantly higher than the average (88.68%). Also, over 60% of respondents from this group want to see a teacher at a lecture, while the rest of the groups are close in their preferences to average estimates. Thus, the use of (ICT), according to students, does not negate the traditionally used forms of development of professional competencies.

7. Conclusion

Thus, the study revealed some important facts regarding the balance of time in the process of communication based on information technologies between educational and socializing purposes for students of Russian universities. The study based on the exploratory interviewing technique applied to the target group, students of universities three Russian regions. The results of the study demonstrated that social networks are used by students in absolutely equal proportions for social communication and professional communication. The results are slightly different for students of Master and Bachelor level. The proportion is 54 % and 46 % in favour of professional communication for Master students and 52 % and 48% in favour of social communication for Bachelor students. That is explainable since Master students have more research tasks and solo work in their study plans. There is the similar proportion close to fifty-fifty for students' communication in messengers. The most significant barrier preventing students from using ICT in professional and social communication is financial one.

The research highlights the importance of universities' ICT infrastructure development for increasing of share of time for using digital technologies in professional purposes.

The limitation of the conclusions based on the study results is the short list of universities involved in the research. It will be reasonable to increase the number of universities from different regions of Russia and include target group students from universities abroad.

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