Перспективы Науки и Образования

Международный электронный научный журнал
ISSN 2307-2334 (Онлайн)

Адрес выпуска: pnojournal.wordpress.com/archive21/21-06/
Дата публикации: 31.12.2021
УДК 378.4

А. В. Дьячкова, О. Н. Томюк, А. Р. Фаизова, А. Ю. Дудчик

Трансформация форм коммуникаций в современном университете при цифровой глобализации

Проблема и цель. В условиях цифровой глобализации традиционные формы коммуникаций в университете вынуждены трансформироваться, чтобы соответствовать образовательным задачам. Однако сложившаяся практика построения коммуникаций в университетах в новых форматах выявила ряд проблем неэффективного взаимодействия между участниками образовательного процесса. Статья имеет целью выявление основных признаков трансформации форм коммуникаций при дистантном обучении в университете. Особое внимание уделено условиям формирования эффективного цифрового диалога в триаде университет-студент-преподаватель.

Материалы и методы исследования. Изучение трансформации коммуникации рассматривается с экономической, педагогической, и филологической (семиологической) точек зрения. Экономический подход включает рассмотрение ресурсных ограничений, препятствующих развитию различных форм коммуникаций в образовательном пространстве, и оценку эффективности коммуникационного процесса. Педагогический подход позволяет оценить технологии и форматы коммуникаций при онлайн обучении. Семиологический подход ориентирован на выборе приемов и схем, адекватных цифровому диалогу. Эмпирическое исследование проведено методом анкетирования. В опросе приняли участие студенты 2–4 курсов Уральского федерального университета имени первого Президента России Б.Н. Ельцина.

Результаты исследования. В 2020–2021 учебном году студенты смогли адаптироваться к быстрому включению в дистанционное обучение и использование цифровых технологий, но при этом половина опрошенных студентов предпочитают вернуться к традиционному формату обучения, 39% студентов за смешанный формат. Установлено, что, если вербальные формы коммуникаций при передаче контента курса от преподавателя к студентам не были трансформированы с учетом цифровой среды и онлайн обучения, то это могло приводить к излишней сложности для восприятия (по мнению 54,5% опрошенных), появлению информационных шумов, как следствие появление дискомфорта (для 40% опрошенных) и попытки избегания коммуникаций (для 18%). 52% студентов указали, что со временем их мнение о дистанте улучшилось.

Обсуждение и заключение. Авторы пришли к выводу, что сегодня умение работать с цифровыми технологиями означает нечто большее, чем цифровая грамотность. В коммуникации важна разработка новых технологий, приемов и средств, адекватных новым образовательным и воспитательным задачам. И в современных условиях, отягощенных пандемическими угрозами, иные пути цифровизации университета с построением эффективных коммуникаций, скорее невозможны.

Ключевые слова: цифровой диалог, дистантное обучение, цифровая коммуникация, цифровой университет, технологии обучения

Ссылка для цитирования:
Дьячкова А. В., Томюк О. Н., Фаизова А. Р., Дудчик А. Ю. Трансформация форм коммуникаций в современном университете при цифровой глобализации // Перспективы науки и образования. 2021. № 6 (54). С. 69-83. doi: 10.32744/pse.2021.6.5

Perspectives of Science & Education

International Scientific Electronic Journal
ISSN 2307-2334 (Online)

Available: psejournal.wordpress.com/archive21/21-06/
Accepted: 20 August 2021
Published: 31 December 2021

A. V. Diachkova, O. N. Tomyuk, A. R. Faizova, A. Yu. Dudchik

Transformation of communications in the new (modern) digital university in the context of digital globalization

Problem and goal. In the context of digital globalization traditional forms of communication at the university are forced to transform in order to meet educational objectives. However, the established practice of building communications in universities in new formats has revealed a number of problems of ineffective interaction between participants in the educational process. The article aims to identify the main features of the transformation of the forms of communication in distance learning at the university. Particular attention is paid to the conditions for the formation of an effective digital dialogue in the university-student-teacher triad.

Materials and research methods. The study of the transformation of communication is considered from an economic, pedagogical, and philological (semiological) point of view. The economic approach includes consideration of resource constraints that prevent the development of various forms of communication in the educational space, and an assessment of the effectiveness of the communication process. The pedagogical approach allows to evaluate the technologies and formats of communication in online learning. The semiological approach is focused on the choice of techniques and schemes that are adequate to digital dialogue. The empirical research was carried out using the questionnaire. The survey involved 2–4-year students at the Ural Federal University named after the first President of Russia B. N. Yeltsin.

Research results. In the 2020–2021 academic year, students were able to adapt to rapid inclusion in distance learning and the use of digital technologies, but half of the students prefer to return to the traditional format of education, 39% of students for a mixed (blended learning) format. It was found that if the verbal forms of communication when transferring the course content from the teacher to the students were not transformed taking into account the digital environment and online learning, then this could lead to unnecessary complexity for perception (according to 54.5% of respondents), the appearance of information noise, as a consequence, the appearance of discomfort (for 40% of the respondents) and attempts to avoid communication (for 18%). 52% of students indicated that their opinion about distance improved over time.

Discussion and conclusions. The authors concluded that digital skills today mean more than digital literacy. In communication, it is important to develop new technologies, techniques and tools that are adequate to new educational and upbringing tasks. And in modern conditions, burdened by pandemic threats, other ways of digitalizing the university with the construction of effective communications are rather impossible.

Keywords: Digital dialogue, distant (online) learning, digital communication, digital university, learning technologies

For Reference:
Diachkova, A. V., Tomyuk, O. N., Faizova, A. R., & Dudchik, A. Yu. (2021). Transformation of communications in the new (modern) digital university in the context of digital globalization. *Perspektivy nauki i obrazovania – Perspectives of Science and Education, 54* (6), 69-83. doi: 10.32744/pse.2021.6.5

Introduction

Digitalization is currently a fundamental factor in the transformation of universities around the world, significantly changing and transforming the educational space, educational technology and communication. This process is managed, supported by international associations and projects, as well as by government programs. For example, the European Union's education development strategy EU 2020 (adopted in 2014) focuses on the integration of modern IT solutions into the activities of EU educational institutions. The flagship initiatives of the Europe 2020 strategy, in particular "Agenda for New Skills and Jobs", "Youth on the Move", "Digital Agenda" and "Innovation Union" put innovation and modernization of education and training as key priorities [1; 2].

The dynamics of digitalization of education, the acquisition of digital competencies in the country are regularly assessed by international organizations such as the International Association for the Evaluation of Educational Achievement (IEA) [3; 4], the association Educause [5], OECD's Programme for International Student Assessment's (PISA) since 2014 [6; 7] to develop new initiatives, strategies and policies, but also to address inequality in access to digital educational technologies in developing and third world countries [8].

In Russia, in accordance with the national project "Digital Economy" all state universities are implementing the model "Digital University", which should have one hundred percent coverage of universities by the end of 2023 [9]. "Strategy for the Development of Information Society in the Russian Federation for 2017–2030" in the field of education sets a target goal of creating various technological platforms for distance learning in order to increase the availability of quality educational services [10, ar. 40 b].

Thus, the main trend in higher education in all countries of the world has become digital globalization, aimed at a fuller and deeper use of the full potential of digital technology in education.

Meanwhile, another global phenomenon – the COVID-19 pandemic – has disrupted the current functioning of higher education institutions and made adjustments to digitalization. Due to the coronavirus infection, among many disruptions, more than 160 countries around the world have completely or partially closed schools, leaving about 1.6 billion students out of school [11]. Prolonged school closures mean not only a loss of learning in the short term but can lead to a loss of effective communication skills, resulting in a further loss of human capital in cognitive competencies and soft skills. Which will ultimately affect economic opportunities in the future.

All universities have responded to this threat by moving to distance learning. Many have implemented technological and organizational solutions to enable online learning and bridge the communication gap between students, faculty, and university administrators.

However, the shift to online has revealed deep digital divides between developed and developing countries, as well as within high-income countries. A survey of principals in 82 countries participating in the Program for International Student Assessment (PISA) found huge differences in the number of students attending schools with effective online learning platforms, with a range of 35% to 70% [12]. Things are worse in middle- and low-income countries, where Internet penetration is typically less than 50% and a large percentage of learners do not have online learning and digital communication devices in their homes. The solution to this problem is to use educational programs on inferior technologies. Here, formats such as television and radio greatly increase access to distance learning [13]. Many low- and middle-income countries, including Brazil, China, Ethiopia, India, and Ghana, have

been using television educational programs for decades. However, this does not ensure the restoration of communication among participants in the educational process.

Already by today, while the world is still quarantined by COVID-19, the higher education system has struggled for a year and a half to find effective channels and ways to communicate between faculty, students, and the dean's office.

A review of the reasons that contribute to the restoration of university communications showed that successful experiences are present in those countries where the digitalization process is a national priority project. In such countries, for some time there has been investment in digital communication, the creation of fiber-optic infrastructure, the formation of national research and educational networks (National Research and Educational Network).

In turn, the reduction of financial, capital and human resources of the university, the presence of personal financial and academic problems of students, undeveloped links between universities create additional obstacles to the construction of communications online [14].

Thus, the current practice of building communications in universities in new formats, the emergence of problems of inefficient interaction requires scientific and practical understanding and identification of acute problems seen by the participants of the educational process, which require immediate solutions.

The aim of the study is to identify the main features of the transformation of forms of communication in distance learning at the university, to develop conditions for the formation of effective digital dialogue in the triad university-student-teacher, as well as to formulate the main criteria and rules of digital dialogue.

Literature review

The problematic of communications in higher education institution is mentioned in most studies in the context of economic problems in the course of university digitalization [15], measuring the degree of university equipment with technical means [16; 17; 18], all these works about digital transformation in the system of higher professional education and evaluation of ICT competencies of participants in the educational process [19], in particular of university teachers [20; 21]. In our opinion, such study allows identifying the environment for communications and the initial conditions for their successful implementation.

Thus, the transformation of communications into digital space is accelerated by resource support [16]. This includes modern equipment and technologies that allow simultaneous communication of a large number of people and the transfer of a large volume of information. A. Uvarov et al. conclude that over the past 15 years Russia has been able to form a good educational base for the use of information and communication technologies [22; 23]. In this regard, universities had to be ready for distance learning, using platforms with electronic resources, even in the conditions of forced transition to online.

The level of human capital is also a key resource in providing communications. Since the main actors in the communication process are students, teachers and university administration, so it is on the digital competencies of these organizers and participants in the educational process depends on the effectiveness of communication. Morze N. and Buinytska O. in their work conclude that in most universities, teachers and students already have a minimum set of ICT competences [21]. But at the same time, the results of Bond M., Marín V. I., Dolch C., Bedenlier S., and Zawacki-Richter O. show that teachers and students use only a limited amount of digital technology [24].

Full understanding requires a focus on the study of the essence and role of communications as a subject of research in the process of formation of a digital university. Here it should be noted that the study of communications as a subject of research is disclosed primarily from the positions of the pedagogical approach and pedagogical technologies. Such studies emphasize the dialogic approach in education, which implies active, extended participation of students and teachers in conversational interaction both in the classroom and outside of it. According to Mercer N., Hennessy S., Warwick P. it is the construction of communication and dialogue that builds learning not as a translation and transfer of knowledge, but as a collective search process [25]. Warwick P. et al. continue that this dialogic approach requires that the instructor not only engage students in class discussions, but also that students engage in exploratory conversation when they work together in groups without the instructor [26]. This means that maintaining dialogical forms of interaction between the instructor and the student in a distance learning environment becomes a serious technical and pedagogical challenge. Here it is important not just to master the technology of working in online format, but also to ensure effective communication and learning. Dialogical learning and continuous communication "teacher-student" according to Mercer N. can not only increase the ability to reflexive thinking [27], but also to build effective communication, concludes Baker M. J. [28].

It should be noted that due to the global transition to distance learning, which happened rather quickly, the approach to the role of communication must change. If previously the possibility of building communication between all participants in the educational process was in the form of face-to-face and direct contact, addressing the other party. In the current mode of distance learning and the availability of a large array of digitized scientific knowledge and free access to it, the teacher-student dialogue is transformed. Directive transmission of information from the teacher to the students is no longer valuable and effective and is replaced by research search. The learning process is changing and becoming more independent. This is precisely the key challenge nowadays: online services focus on autonomy, but this is where dialogue is important, tutorial support of the teacher acting as a coacher in the digital dialogue. At the same time, the use of dialogue in teaching is not limited to any subject area but is a universal pedagogical technology [29].

Paul Warwick et al. argue that dialogic intentions (DIs) of educators and students can be successfully implemented when using digital technologies. The authors focus on dialogic intentions as a factor in promoting metacognitive awareness of productive dialogue among students. The paper addresses the fact that educators today are able to transition digitally using a microblogging tool (Talkwall) [26]. Recognizing the diverse and interconnected impact of digital technology on student learning, specific technological capabilities are central to creating an effective communication process.

A semiological approach to evaluating the transformation of communication in the digital educational space focuses on the choice of techniques and schemes that are adequate for digital dialogue. Digitalization creates new communication codes, scheme signs, and communicative space. Here it is important that the participants of the dialogue are able to interpret each other's signals correctly, because visual communication is not always possible in the digital format, and it is possible to rely only on verbal communication.

This approach involves the analysis of communication channels and communication techniques. This aspect can sometimes reveal ineffective forms of communication when teachers overuse the textual form. When creating electronic resources, teachers

recommend a large volume of texts, lecture notes, methodological materials, and literature for independent reading. At the same time the proposed materials ignore the problem of the difficulty of perception of the text. According to R. Fleisch's readability formula, many lecture presentations and other materials can be considered difficult to perceive if they contain too long sentences and/or words consisting of many syllables [30, p. 325].

Within the framework of the semiological approach, it becomes possible to consider communications between teachers and students according to the criteria of PR campaign or public speech analysis [31]. This allows us to conclude to what extent the communication in the digital space is correctly built. Whether the sender (teacher) managed to correctly convey the signal-knowledge, and the addressee (student) correctly interpret the information received. Based on this, it is possible to judge the effectiveness of the chosen channel and format of communication in the digital environment. Thus, G. Mendelson believes that not the audience is guilty of unsuccessful communication, but its planners [30, p. 154], for us – teachers and dean's office, which have not sufficiently considered the key rules of communication theory and practice. What is meant here is that the digital communication of information transmission can be one-way, noise appears, that is, redundant or distorted information [31], or students cannot correctly interpret the received text due to the lack of visual contact.

That is why the semiological approach is important when analyzing the transformation of communications in the modern digital university, which allows us to evaluate the "internal structure" and tasks of communications.

In the study of the subjects of communication, their goals, tasks and possibilities Magnifico A. M., Lammers J. C., Curwood J. S. revealed that access to the tools of online publishing has led to the emergence of new venues where participants in the dialogue begin to create new genres, practices and techniques [32]. For example, in the digital space, teachers, science popularization scientists, and students have new formats of communication: chat rooms, blogs, live journals, video tutorials, and podcasts. Researchers in the field of education, communication, and writing have noted that as online writing and information sharing grow in popularity, such activities increasingly contribute to the learning process [31; 32].

Evaluating the transformation of communication, meaning the transition to the digital space and the emergence of new practices of dialogue using different digital technologies, we can find both positive results and problematic aspects. So, Lai K.-W., Hong K.-S. in the study of digital technology use patterns and descriptions of learning characteristics of practical differences between generations (20 and 30–40-year-old students) were not found. The results of their study showed that generation is not a determining factor in students' use of digital technology for learning, and generation has no radical impact on the learning characteristics of higher education students [33]. Thus, differences in age are not a barrier to effective communication in the digital environment. More, active use of e-learn technologies, conducting online classes to achieve educational goals requires feedback, so according to Morris R., Perry T., Wardle L. digital dialogue between instructor and students is necessary [34].

It is necessary to emphasize that digital technology facilitates such communication. Digital educational platforms already have built-in discussion tools, forum, interactive whiteboard, and so on. T. A. Boronenko, A. A. Kaisina. V., Fedotova V. S. call such forms of communication dialogue in explicit and implicit forms [35]. The communications in and out of the classroom contribute to the formation of a new educational reality, the main principle of which is dialogue and socio-cultural interaction of the participants [36].

It should be noted that those universities that already knew how to communicate in the digital space, in the conditions of the forced transition to full online during the coronavirus pandemic, were able to build a digital dialogue more successfully than others [37].

Despite the fact that digital technology allows the use of new communication techniques, Almén L., Bagga-Gupta S., Bjursell C. note that the use of digital tools to implement communication in the educational process in some cases is characterized by simply replacing traditional classroom techniques, which were dominated by paper, pens and textbooks. "While students appreciated working with digital tools, they had difficulty identifying the added value of using them. In addition, the teacher had control over how, when, and where digital tools were used" [38]. Marcelo C., Yot-Domínguez C., Mayor-Ruiz C. reveal a weak integration of digital technologies in teaching and learning processes that focused more on the educator than on the needs and capabilities of students [39].

We should add the findings of Fraillon J. et al, that only one in five students uses digital technologies for educational purposes. They use their main ICT competencies for entertainment purposes, such as listening to music and watching videos [4, ch. 5]. Let us add that in the study Selwyn N. finds that a number of students consider some digital technologies as useless [40].

Thus, the analysis of the transformation of communications in the process of digitalization in the university allows us to draw the following conclusions.

The study of the forms of communication should be done from the perspective of several approaches, especially successful for a complete study are the economic, pedagogical and semiological approaches.

The economic approach allowed us to note that the speed of the transformation of communications into digital format depends on the financial, technical and human resources for the digitalization of the university, with the key ICT competencies of the participants in most universities already formed. Increasing the number of participants in the dialogue while going online en masse leads to increased network load and can interfere or make communication ineffective.

A pedagogical approach has revealed that communication needs dialogue both in and out of the classroom, with discussion and dialogue tools already built into digital platforms. The transformation of digital dialogue outside the classroom continues in teachers' blogs, live journals, and chat rooms.

Semiological approach allows to consider communications from the perspective of public speaking theory and PR campaigns; the effectiveness of the dialogue depends on the choice of adequate verbal and visual communication techniques, while noise may appear distorting the communication tasks.

Having sufficient ICT competences, communicators do not use them sufficiently for educational purposes, but rather for entertainment purposes.

Thus, this actualizes the consideration of digital dialogue in practical research.

Materials and methods

The study of communication transformation is considered from economic, pedagogical, and philological (semiological) points of view. The economic approach includes the consideration of two aspects: resource limitations that hinder the development of various forms of communication in the educational space, and the evaluation of the efficiency of the

communication process. The pedagogical approach, defining the various roles of dialogue in communication, allows evaluating the technologies and formats of communication in online learning. Semiological approach focuses on the selection of techniques and schemes adequate to digital dialogue.

The empirical study included a questionnaire survey of Ural Federal University's 2nd-4th year students between November 2020 and April 2021. The survey was compiled in the Google-form (https://docs.google.com/forms/d/e/1FAIpQLSeWHcJ30Y7rVkFO3jf1rChYYQi0vW9hXSt_Ku3JlW9cWhZZ5A/viewform), included a block of questions about the respondents' attitude to the format of learning and the degree of complexity in distance learning; a block of questions on the organization of digital dialogue with professors and with the dean's office, as well as what digital platforms are used for communication. In the study the conclusions are made on the basis of the data of 2317 questionnaires.

Research results

According to the results of the questionnaire, in general, students were able to adapt to the rapid inclusion in training with full immersion in digital technology and distance forms. At the same time, the attitude of the surveyed students to the form of learning can be assessed as rather conservative (Fig. 1).

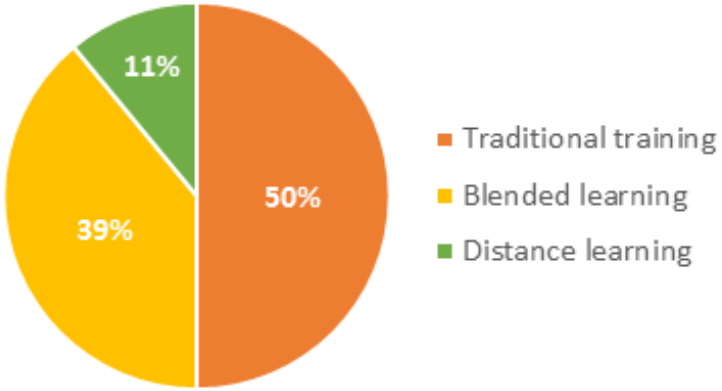

Figure 1 Preferred forms of education among students

Half of the respondents prefer the traditional form of education with classes in the classrooms of the university. Almost 40% of students are ready for blended learning, focused on lectures in a distance format and practical classes, involving discussion and dialogue, in the traditional form.

Only 10.9% of students were able to evaluate the distance form of learning, giving it a preference.

Assessing the complexity of learning, 60% of students do not consider distance learning as a difficult process (Figure 2).

There are technical disruptions and difficulties in the distance learning process, but more importantly, the lack of real physical presence and interaction with their academic group for students. It is possible that this discomfort of communicating through a computer (phone) screen will soon be eliminated.

The efficiency of communication was also measured by the indicator of frequency and timeliness of informing students about changes in the educational process in distance learning (change of schedule, the appearance of a new homework, the results of evaluation

of students' work). Among the surveyed students 18% believe that communication during distance learning was lost or was not systematic. Thus, 10% of students believe that they were not provided with timely information, 8% indicated that information from the dean's office or faculty was rarely received. Almost a quarter of the students surveyed indicated that information was provided in a timely manner, but they themselves did not keep track of communication channels. Therefore, the information may have been less relevant. More than half of the students (58%) acknowledge that the university faithfully informed students of all changes. Communication channels worked smoothly.

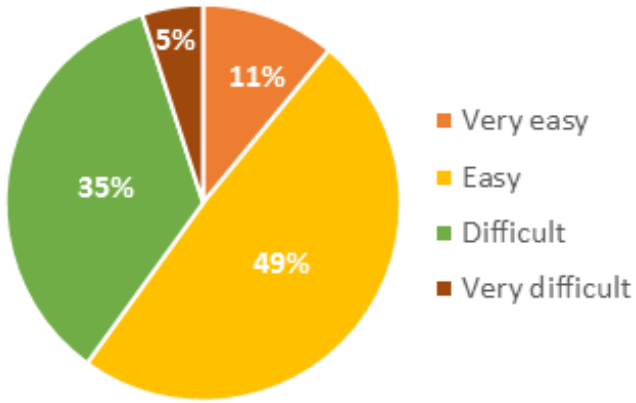

Figure 2 Degree of complexity of training with the use of distance technologies

Among the digital platforms used in digital learning, Microsoft Teams, Zoom, and BBB were the most common (Table 1).

Table 1

Common online learning tools

Common online learning tools	Number of responses
Microsoft Teams	960
Zoom	808
BBB	696
Online lectures on YouTube	192
Discord	80
Skype	56

The main factors in the popularity of these platforms are related to the accessibility of their use and ease of mastering them. In addition, many universities orient teachers to a unified approach, recommending the use of MS Teams and BBB. Uniformity in the use of digital platforms is aimed at forming an effective digital dialogue between all participants in the educational process, when everyone learns the capabilities of a priority digital tool.

It should be added that many universities have organized regular workshops, seminars for teachers on the use of the digital platform to improve digital skills.

While mastering the new digital technologies for learning, students, meanwhile, faced a number of problems (Table 2).

A common problem among students is of a technical nature and is related to interruptions in the process of playing back the material, the playback of sound. But there are also problems of a subjective nature – those related to the breakdown of communication or its asynchrony. It is all this that can be considered noise that makes communication ineffective.

Table 2

Typical problems in distance learning: the results of the survey

Typical problems in distance learning	Number of responses
Technical interruptions in the playback process (often sound problems; sometimes it takes a long time to get into a lecture)	975
Poor feedback	520
I did not receive an answer to my question in a timely manner	387
No problems	164

Being forced to be immersed in the distance, students, almost a year studying in the new format, have formed some opinions about it. Thus, 52% of the students indicated that over time their opinion had shifted for the better, while 37% had shifted for the worse. The explanation for this different attitude of students lies in the area of motivation to learn. The results of the questionnaire confirm this. Comparing students' answers about their attitude to distance learning, its advantages and difficulties (Table 3), the following interesting conclusions can be traced. If the student is able to organize his time and motivate himself to the learning process, then he perceives positively learning with digital technology. If the student is able to organize themselves to study, then their schedule and pace of learning is perceived highly and positively.

The students interviewed gave an assessment of the advantages and disadvantages of distance learning. Descriptive statistics on the results of the surveys are shown in Table 3.

Table 3

Advantages and disadvantages of distance learning: the results of the survey

Survey questions, ranking of answer options from 0 to 8, where 0 is the lowest rank, 8-the highest	Descriptive statistics		
	Average	Mode	Coefficient of variation
In your opinion, what are the advantages of distance learning?			
Opportunity to study at any time	5.79	8	39%
Ability to learn at your own pace	5.16	6	44%
Opportunity to study anywhere	6.51	8	22%
Opportunity to combine study and work	4.88	8	45%
High learning outcomes (easier to pass an exam/credit)	3.96	4	52%
Availability of training materials	5.38	8	38%
Learning in a relaxed environment	5.61	8	36%
Saving time	5.37	8	40%
Digital dialogue with the teacher	3.52	0	62%
In your opinion, what are the disadvantages of distance learning?			
Strong intrinsic motivation to learn is necessary	4.13	6	43%
The need for good technology	3.61	6	47%
Lack of computer literacy	1.79	0	87%
High time costs	2.42	0	74%
Distance education is not suitable for the development of communication skills	4.15	6	42%
Lack of practical knowledge	4.08	6	39%
Difficulty in getting advice from a teacher	2.92	3	56%

In general, according to the results of the questionnaire, students are aware of the advantage of digital learning. The prevalent rank in the answers to many questions was 8 (mode in Table 3). Especially highly appreciate the possibility of learning anywhere, including at work, in a cafe, at home (mean value 6.51).

It should be noted that there was no unity of opinion among students about the ranking of advantages and disadvantages (the coefficient of variation in Table 3 was more than 30% for almost all questions). Students agreed on the advantages of learning anywhere (coefficient of variation 22%).

Among the main disadvantages of digital learning, students included the threat of insufficient development of communication skills (Table 3). At the same time information and computer competence can be considered as formed in students. Lack of computer literacy received the lowest rank (1.79).

For students, as this study shows, it is convenient to get information from social networks, it was confirmed by more than 91.8% of respondents, only 8.2% recognized this channel of communication as inconvenient. Also, more than half of all respondents, namely 54.5%, noticed an increase in the amount of information in social networks of the university itself, which is, of course, due to the need to inform all students and teachers.

The dialogue between the teacher and the student is carried out mainly in two ways: by e-mail and through an electronic resource platform (Table 4).

Table 4

Organizing a digital dialogue between faculty and students

	E-mail	WhatsApp	Viber	VKontakte	Chat / forum on an electronic resource platform
Predominantly	49	18	2	40	26
Rarely	19	46	9	21	43
No	6	46	101	47	13

Students also work with the dean's office by e-mail and through the popular social networking site VKontakte (Figure 3).

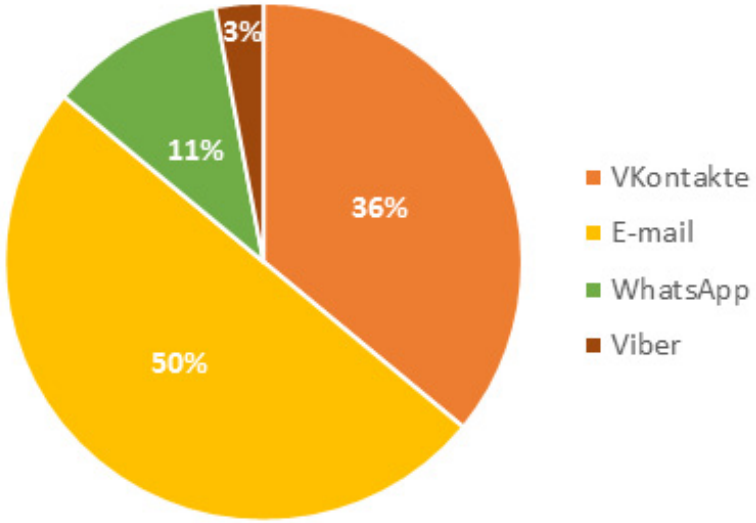

Figure 3 Organization of a "digital dialogue" between the dean's office and students

In order to build an effective digital dialogue, many educational programs, the curriculum unit or teachers created their own groups on VKontakte, carrying out a synchronous system dialogue.

Discussion

As a result of the study of the main signs of the transformation of forms of communication in the university, it was noted that the starting conditions for the rapid movement of communications in digital format are determined by the technical equipment for the educational process and the software, the funding of which is supported by both university management and government programs. The empirical study showed that if the verbal forms of communication in the transfer of course content from the teacher to students have not been transformed to take into account the digital environment and online learning, it leads to excessive difficulty for perception, the emergence of information noise, as a consequence of the appearance of discomfort and attempts to avoid communication. This fact is consistent with the results of Fraillon J., Camilleri M. A., Almén L. [4; 37; 38].

As in the study of Fraillon J. et al we found that not considering online learning more difficult than traditional one, the use of digital technologies for students is more habitual for entertainment purposes than for educational tasks, and therefore causes some dissatisfaction.

The issue of digital dialogue with the teacher seems interesting for analysis and further improvement of communications. Students have not yet rated it as a positive feature in digital learning. The empirical findings are not consistent with the theoretical insights of Magnifico A. M., Lammers J. C., Curwood J. S. about the emergence of new techniques and ways of communication in the digital environment [32]. Teachers and students turned out to be more inert in the use of new means of communication, could not discover the full potential of digital online services.

Here we see a number of reasons. First, the lack of an established working system of digital dialogue in classes in the form of discussions and communications outside of class time. Formally, there are always contacts between the teacher and students, but they may not be used by participants in the educational process or may not respond in a timely manner to requests from both teachers and students.

Secondly, there are no established regulations for digital dialogue within the educational process. The need for regulated communications as an element of corporate culture is confirmed in other studies [41]. We agree with the authors Putilova E. A., Shutaleva A. V. that a unified system of communication tools, rules and procedures of communication can be built into the code of corporate culture, following which will ensure the effectiveness of the entire organization.

The effective solution here can be coordinated between the party's regulations and instruction of students. For example, students' requests to the teacher are accumulated by the head of the academic group, formalized in accordance with the rules of business correspondence and sent to the teacher. The instructor, in turn, prepares a response, sending it no later than three business days. Third, all dialogue should be conducted in official (corporate) accounts or those that allow to identify the sender and the addressee.

In our opinion, the university should also work toward the formation of a University Communications Code.

Conclusion

Summarizing the results of the questionnaire and the theoretical conclusions, we can conclude that the transformation of communications in the university in the digital space is active, accelerating due to the forced distance learning during the coronavirus period.

The conditions for the successful transformation of communications in the digital format and ensuring the effectiveness of the communication process are the following:

- resources and technical equipment for digital dialogue, supported both at the level of university management and the state program;
- the competent choice by teachers of visual and verbal means of communication for adequate solution of educational tasks;
- avoiding information noise, misinterpretation of signs and signals of digital dialogue due to insufficient ICT literacy or, on the contrary, excessive complexity of content for perception in digital format;
- creation of conditions and measures to increase students' use of their digital competencies for educational purposes;
- forming internal regulations for digital dialogue in the university, for example, the Code of Digital Dialogue.

In our opinion, Russia and the world are undergoing a process of digital globalization. A digital university is being formed in the education system. And it is necessary to transform communications not just as an adaptation of the process of communication between teachers and students and the use of traditional forms in the digital field. It is necessary to carry out not only the translation of knowledge, but also a dialogue that motivates discussion and the search for new knowledge. The contact is not so much during classes as it is coaching during independent work. In communication it is important to develop new technologies, techniques and tools that are adequate to the new educational and training tasks. And in today's conditions, burdened by pandemic threats, other ways of digitizing the university with the construction of effective communications are rather impossible.

REFERENCES

1. Learning and Skills for the Digital Era. Available at: https://ec.europa.eu/jrc/en/research-topic/learning-and-skills.
2. Machekhina, O. N. (2017). Digitalization of education as a trend of its modernization and reforming. *Revista Espacios, 38* (40).
3. Fraillon, J., Schulz, W. and Ainley, J. (2013). *International computer and information literacy study 2013: assessment framework IEA, Amsterdam*. Available at: https://www.iea.nl/publications/assessment-framework/international-computer-and-information-literacy-study-2013.
4. Fraillon, J., Ainley, J., Schulz, W., Friedman, T., Duckworth, D. (2020). Preparing for Life in a Digital World: IEA International Computer and Information Literacy Study 2018. *International Report*, pp. 1-297.
5. EDUCAUSE. (2018). *Report from the 2018 EDUCAUSE Task Force on Digital Transformation*. Available at: https://library.educause.edu/~/media/files/library/2018/11/dxtaskforcereport.pdf.
6. Claro, M., & Ananiadou, K. (2009). *21st Century Skills and Competences for New Millennium Learners in OECD Countries* (OECD Education Working Papers № 41). DOI: 10.1787/218525261154.
7. OECD (2018b). *The future of education and skills: Education 2030*. OECD Available at: http://www.oecd.org/education/2030/OECD%20Education%202030%20Position%20Paper.pdf.
8. Sustainable Development Goals. 4 Quality Education. UN. Available at: https://www.un.org/sustainabledevelopment/education.
9. National program “Digital Economy of the Russian Federation”. Available at: http://static.government.ru/media/files/3b1AsVA1v3VziZip5VzAY8RTcLEbdCct.pdf (accessed: 06.07.2021) (in Russian).

10. Decree of the President of the Russian Federation dated 09.05.2017 № 203 "On the Strategy For the Development of the Information Society in the Russian Federation for 2017-2030". Available at: http://www.kremlin.ru/acts/bank/41919.
11. Digital technologies in education. Available at: https://www.worldbank.org/en/topic/edutech.
12. The World Bank Education Global Practice. Rapid Response Guidance Note: Educational Television & COVID-19 (Updated: April 17, 2020). Overview. Available at: http://documents1.worldbank.org/curated/en/659411587145759242/pdf/Rapid-Response-Guidance-Note-Educational-Television-and-COVID-19.pdf.
13. How countries are using edtech (including online learning, radio, television, texting) to support access to remote learning during the COVID-19 pandemic. Available at: https://www.worldbank.org/en/topic/edutech/brief/how-countries-are-using-edtech-to-support-remote-learning-during-the-covid-19-pandemic.
14. The COVID-19 Crisis Response: Supporting tertiary education for continuity, adaptation, and innovation. Available at: http://pubdocs.worldbank.org/en/808621586532673333/WB-Tertiary-Ed-and-Covid-19-Crisis-for-public-use-April-9-FINAL.pdf.
15. Egloffstein M., Ifenthaler D. (2021) Tracing Digital Transformation in Educational Organizations. In: *Ifenthaler D., Hofhues S., Egloffstein M., Helbig C. (eds) Digital Transformation of Learning Organizations*. Springer, Cham. DOI: 10.1007/978-3-030-55878-9_3.
16. Branch, J. W., Burgos, D., Serna, M. D. A., & Ortega, G. P. (2020). Digital Transformation in Higher Education Institutions: Between Myth and Reality. In *Radical Solutions and eLearning*, 41-50. DOI: 10.1007/978-981-15-4952-6_3.
17. Ipatov, O., Barinova, D., Odinokaya, M., Rubtsova, A., Pyatnitsky, A., & Katalinic, B. (2020, January). The Impact of Digital Transformation Process of the Russian University. In *Proceedings of the 31st DAAAM International Symposium*, 271-275. https://doi.org/10.2507/31st.daaam.proceedings.037.
18. Seres, L., Pavlicevic, V., & Tumbas, P. (2018, March). Digital transformation of higher education: Competing on analytics. In *Proceedings of INTED2018 Conference 5th-7th March*, 9491-9497. DOI: 10.21125/inted.2018.2348.
19. Gastelú, C. A. T., Kiss, G., & Domínguez, A. L. (2015). Level of ICT competencies at the university. *Procedia – Social and Behavioral Sciences, 174*, pp. 137-142. DOI: 10.1016/j.sbspro.2015.01.638.
20. Roszak, M., & Kołodziejczak, B. (2017). *Teachers' skills and ICT competencies in blended learning*. Available at: http://weinoe.old.us.edu.pl/node/1140
21. Morze, N., & Buinytska, O. (2019). Digital Competencies of University Teachers. In *Universities in the Networked Society*, pp. 19-37. DOI: 10.1007/978-3-030-05026-9_2.
22. Uvarov A. Yu. Et al. (2019). Problems and prospects of digital transformation of education in Russia and China *II Russian-Chinese Conference of Educational Researchers "Digital Transformation of Education and Artificial Intelligence"*. Moscow, Russia, September 26-27. Publ., 343. (In Russ.).
23. Bond, M., Marín, V. I., Dolch, C., Bedenlier, S., & Zawacki-Richter, O. (2018). Digital transformation in German higher education: student and teacher perceptions and usage of digital media. *International Journal of Educational Technology in Higher Education, 15*(1), 1-20.
24. Mercer, N., Hennessy, S., & Warwick, P. (2019). Dialogue, thinking together and digital technology in the classroom: Some educational implications of a continuing line of inquiry. *International Journal of Educational Research, 97*, 187-199. DOI: 10.17863/CAM.13777.
25. Warwick, P., Cook, V., Vrikki, M., Major, L., & Rasmussen, I. (2020). Realising 'dialogic intentions' when working with a microblogging tool in secondary school classrooms. *Learning, Culture and Social Interaction, 24*. DOI: 10.1016/j.lcsi.2019.100376.
26. Mercer N. (2008). Talk and the development of reasoning and understanding. *Human development, 51* (1), 90-100. DOI: 10.1159/000113158.
27. Baker, M. J. (2020). Types of types of educational dialogue. *Learning, Culture and Social Interaction*. Article 100387. DOI: 10.1016/j.lcsi.2020.100387.
28. Shutaleva, A., Nikonova, Z., Savchenko, I., & Martyushev, N. (2020). Environmental education for sustainable development in Russia. *Sustainability, 12*(18). DOI: 10.3390/su12187742.
29. Pocheptsov, G.G. (2001). *Communication theory*. Moscow, Refl-book Publ.
30. Vakler, K., Negrine, R. (2003). *Politics and the mass media in Britain*. Routledge. 656.
31. Magnifico, A. M., Lammers, J. C., & Curwood, J. S. (2020). Developing methods to trace participation patterns across online writing. *Learning, Culture and Social Interaction, 24*. Article 100288. DOI: 10.1016/j.lcsi.2019.02.013.
32. Lai, K.-W., & Hong, K.-S. (2015). Technology use and learning characteristics of students in higher education: Do generational differences exist?: Technology use and learning characteristics of students. *British Journal of Educational Technology, 46*(4), 725–738. DOI: 10.1111/bjet.12161.
33. Morris, R., Perry, T., & Wardle, L. (2021). Formative assessment and feedback for learning in higher education: A systematic review. *Review of Education, 9*(3). DOI: 10.1002/rev3.3292.
34. Boronenko, T. A., Kaisina, A. V., Fedotova, V. S. (2017). Dialogue in Distance Education. *Vysshee obrazovanie v Rossii = Higher Education in Russia, 8/9* (215), 131-134.
35. Semenov, A. A., & Matyushkin, B. A. (2019). Dialogue as part of digital education. *Dialogic Ethics*, 101-104. DOI: 10.17863/CAM.13777.
36. Camilleri, M. A. (2021). Strategic Dialogic Communication Through Digital Media During COVID-19 Crisis,

Camilleri, M. A. (Ed.) Strategic Corporate Communication in the Digital Age, Emerald Publishing Limited, Bingley, pp. 1-18. DOI: 10.1108/978-1-80071-264-520211001.
37. Almén, L., Bagga-Gupta, S., & Bjursell, C. (2020). Access to and Accounts of Using Digital Tools in Swedish Secondary Grades. An Exploratory Study. *Journal of Information Technology Education, 19*. DOI: 10.28945/4550.
38. Marcelo, C., Yot-Domínguez, C., & Mayor-Ruiz, C. (2015). University teaching with digital technologies. Enseñar con tecnologías digitales en la universidad. *Comunicar, 45*, 117-124. DOI: 10.3916/C45-2015-12.
39. Selwyn, N. (2016). Digital downsides: Exploring university students' negative engagements with digital technology. *Teaching in Higher Education, 21*(8), 1006-1021. DOI: 10.1080/13562517.2016.1213229.
40. Putilova, E. A., & Shutaleva, A. V. (2020, November). Corporate culture as one of the key factors of effective industrial enterprise development. In *IOP Conference Series: Materials Science and Engineering, 966*, 1. DOI: 10.1088/1757-899X/966/1/012132.

Информация об авторах

Дьячкова Анна Викторовна
(Россия, г. Екатеринбург)
Кандидат экономических наук, доцент кафедры экономической теории и экономической политики
Уральский федеральный университет имени первого Президента России Б. Н. Ельцина,
E-mail: a.v.diachkova@urfu.ru
ORCID ID: 0000-0003-4970-1820
Scopus Author ID: 57211156711

Томюк Ольга Николаевна
(Россия, г. Екатеринбург)
Кандидат философских наук, старший научный сотрудник, старший преподаватель кафедры теории государства и права
Уральский государственный юридический университет
E-mail: helgago@yandex.ru
ORCID ID: 0000-0001-9524-8364
Scopus Author ID: 57211983935

Фаизова Анастасия Рафиковна
(Россия, г. Екатеринбург)
Магистрант
Уральский федеральный университет имени первого Президента России Б. Н. Ельцина
E-mail: faizova99@mail.ru
ORCID ID: 0000-0003-3369-9201

Дудчик Андрей Юрьевич
(Республика Беларусь, г. Минск)
Доцент, кандидат философских наук, заместитель директора по научной работе Института философии Национальной академии наук Беларуси
***
Доцент кафедры философии культуры Факультета философии и социальных наук
Белорусский государственный университет
E-mail: dudchik@philosophy.by
ORCID ID: 0000-0002-6810-5103
Scopus Author ID: 57211980303

Information about the authors

Anna V. Diachkova
(Russia, Ekaterinburg)
Associate Professor, PhD in Economics,
Associate Professor of the Department of Economic Theory and Economic Policy
Ural Federal University named after the first President of Russia B.N. Yeltsin
E-mail: a.v.diachkova@urfu.ru.
Scopus Author ID: 57211156711
ORCID ID: 0000-0003-4970-1820

Olga N. Tomyuk
(Russia, Ekaterinburg)
PhD in Philosophy, Senior Researcher, Senior Lecturer,
Department of Theory of State and Law
Ural State Law University
E-mail: helgago@yandex.ru
ORCID ID: 0000-0001-9524-8364
Scopus Author ID: 57211983935

Anastasia R. Faizova
(Russia, Ekaterinburg)
Master's Degree student,
Ural Federal University named after the first President of Russia B. N. Yeltsin
E-mail: faizova99@mail.ru
ORCID ID: 0000-0003-3369-9201

Andrei Yu. Dudchik
(Republic of Belarus, Minsk)
Associate Professor, PhD in Philosophy,
Deputy Director for Research, Institute of Philosophy
National Academy of Sciences of Belarus
***
Associate Professor,
Department of Philosophy of Culture,
Faculty of Philosophy and Social Sciences,
Belarusian State University
E-mail: dudchik@philosophy.by
ORCID ID: 0000-0002-6810-5103
Scopus Author ID: 57211980303