

Using Distance Learning Programs at Regional Universities

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Abstract — Improving the means of communication and the evolution of the educational system led to the formation of a

distance learning form, which in terms of the number of students surpassed the traditional ones and firmly entered the educational process. Each form of training has its own advantages and disadvantages depending on specific conditions. The choice of a particular form of training or their ratio determines the effectiveness of achieving the main goal of the educational process.

Keywords — Distance learning, electronic course, education, educational technology, regional university

I. INTRODUCTION

The current level of development of technical means of communication, as well as the requirements for students of higher education, leads to changes in teaching methods [1, 2]. Distance learning forms in the form of online courses are becoming one of the fastest growing teaching methods (Fig. 1). For a regional university, the use of distance learning methods is currently a necessary condition for its competitiveness with other higher educational institutions [3, 4]. The number of universities that offer distance learning programs has increased significantly over the past five years, the courses taught have become diverse and the number of people studying with online courses has increased significantly. At the same time, the

question remains what is the permissible share of using distance education in the modern model of teaching undergraduate and graduate programs in regional universities [5].

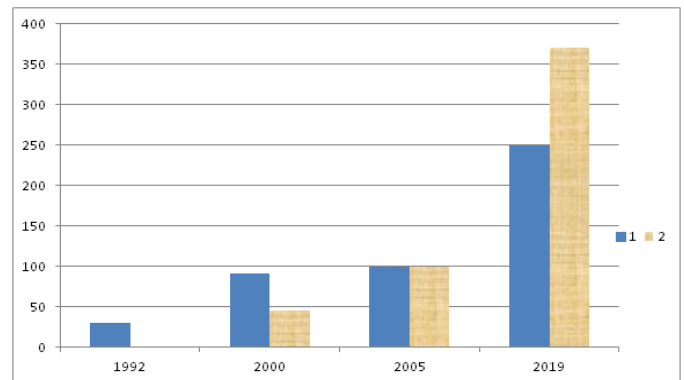


Fig. 1. Growth dynamics of students enrolled in traditional and distance learning (1 Traditional learning, 2 Distance learning; million people)

Currently, distance learning is understood as the acquisition of new knowledge through electronic services and modern telecommunication facilities and distance technologies. The

distance form of training makes it possible to create systems of continuous mass learning and information exchange.

Distance learning has a number of advantages that allow it to be presented quite often, even as an alternative to classical higher education [6, 7].

First of all, these advantages include the possibility of getting an education extraterritorially and at a pace and time convenient for students, while it does not matter in which city or even country you are located [8]. Also, a number of researchers refer to the advantages of saving time, money spent on training [9], the ability to choose the course of interest, a specific teacher or researcher of the required level. Compensation for the shortage of qualified faculty, which has the full knowledge of modern trends in the development of the scientific process and technological achievements. Thus, thanks to efficiency, flexibility and modularity, distance education largely meets the requirements for education in the modern dynamically changing world.

At the same time, distance education has a number of significant drawbacks, namely, the impossibility of transferring complex, specialized courses that require specialized laboratories and conditions (Table 1).

This is the impossibility of obtaining practical work skills for students, including modern samples of high-tech equipment, a critical dependence on the technical component of the educational process [10]. The success of mastering one or another online discipline is based on self-discipline and the systematic study of course materials. The development and implementation of e-courses by teachers of higher education institutions are, in our opinion, limited by another factor, such as copyright. Most of the training courses are developed by teachers on the electronic platform of universities. If the creator of the online course leaves the educational organization, then the electronic course developed by him completely and completely remains with the educational institution. That is, the copyright of its developer is not protected. At the same time, practice shows that the teacher is required to develop and maintain the course a large amount of time. Answers to questions arising in the process of mastering the electronic course can be obtained through specialized forums and chats, however, not every university does this work reflected in the load of teachers.

The introduction of distance learning elements in small regional universities will only expand, and the methodology used in the learning process will improve. However, there are still many problematic issues that need to be clarified and investigated. Although distance learning in certain situations can be at least as effective as regular learning, in a number of disciplines it cannot replace traditional forms of learning.

When developing distance learning courses, you need to understand that fully distance learning can be in a fairly limited number of disciplines, usually in the humanitarian, economic, legal, and social sectors. The same areas, based on not only theoretical, but mainly practical knowledge such as chemistry, physics, biology, engineering, can and should have elements of distance learning, improve the level of taught disciplines or with insufficient qualifications of the existing teaching staff.

TABLE I. DIRECTIONS OF TRAINING, IMPLEMENTED IN SOME REGIONS OF RUSSIA, IN THE FRAMEWORK OF DISTANCE EDUCATION.*

Region	Training Profile (Remote)
Moscow region	03/03/01 - Economics 03/08/01— Construction 03/20/01— Technosphere safety 03/21/02 - Land management and cadastres 03/21/03 - Surveying and remote sensing 05.21.01 - Applied Surveying 03/13/02 - Power industry and electrical engineering 03/27/04 - Management in technical systems 03/03/02 - Management 03/03/05 - Business Informatics 03/ 38/04 - State and municipal administration 03/03/03 - Human Resource Management 03/42/01 - Advertising and public relations 03/ 42/02 - Journalism 03/03/02 - Psychological and pedagogical education 03/46/02 - Documentation and archival studies 03/05/01 - Culturology 03/44/01 - Pedagogical education under the programs "Preschool education" and "Primary education"
Republic of Bashkortostan	03/08/01— Construction 03/38/01— Economics 03/03/02— Management 03/15/02— Technological machines and equipment 03/19/02— Food products from plant materials 03/29/05— Design of products for light industry 03/03/04 - State and municipal administration 03/03/06— Trading 03/03/02— Tourism 03/03/03— Hospitality 03/54/01— Design 05.21.06— Oil and gas equipment and technologies 05/20/01— Fire safety 05/05/01— Economic security
Novosibirsk region	03/09/01 - Informatics and computer engineering 03/09/03 - Applied Informatics 03/11/01 - Radio engineering 03/13/02 - Power engineering and electrical engineering 03/15/04 - Automation of technological processes and production 03/15/05 - Design and technological support of engineering industries 03/19/04 - Product technology and catering 03/20/01 - Technosphere safety 03/27/02 - Quality Management 03/03/01 - Psychology 03/03/02 - Conflictology 03/03/01 - Economics 03/03/02 - Management 03/03/05 - Business Informatics 03/39/02 - Social work 03/03/01 - Public Relations 03/03/01 - Service 03/03/02 - Tourism

* An analytical note on the state, problems and prospects of the development of the education system of the regions in terms of the dissemination of models of public administration of education

II. METHODS AND MATERIALS

In the framework of testing students' work on training programs using distance learning methods, a survey was

conducted of students of Volga State University of Technology (Yoshkar-Ola) and Kostroma State University (Kostroma). The following questions were used in the questionnaire [11]. What tasks, from your point of view, does e-learning solve? What are the most important benefits of e-learning for you? Why do your teachers use distance learning technology in e-learning? Please indicate the best ways for you to interact with a teacher. Will the quality of your education improve using the e-learning system? How do you rate the use of e-learning at the university? The survey involved 52 students of Volga State University of Technology (Volgatech) and 50 students of Kostroma State University (KSU).

III. RESULTS

It was found that for most respondents, the key advantage of distance learning is the ability to acquire knowledge at a convenient time for them. There was the formation of independent work skills (Fig.2).

The survey confirmed the advantage of distance learning noted by many in the ability of students to independently form a convenient training schedule for themselves with the release of a significant amount of free time, which allows combining study and work (Fig.3).

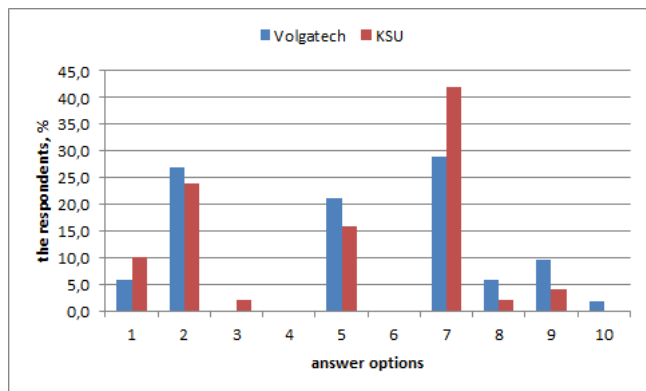


Fig. 2. What tasks, from your point of view, does e-learning solve? Answer options: 1 Increases my level of knowledge, skills. 2 Forms skills to work with volumes of information, develops independence in the search and use of necessary information. 3 Provides the opportunity to expand your social circle. 4 Develops abilities. 5 Develops self-control skills. 6 Forms a motivation for self-education. 7 Provides learning opportunities at a convenient time and place. 8 I have a negative attitude to the use of remote technologies. 9 Difficult to answer. 10 Other.

Online learning opens up wide prospects for the use of electronic and media resources in the educational process, the use of which in the classroom is often difficult. The study showed that for students, distance learning via the Internet is primarily access to the training materials posted in it. This was noted by 80% of respondents from both universities (Fig.4).

The development of electronic communications has led to the dynamic development of social networks and the formation on their basis of the information environment familiar to modern youth. Social networks supplanted the once popular means of communication such as telephones, e-mail, etc. Even when communicating with a teacher, students give preference to social networks (Fig. 5).

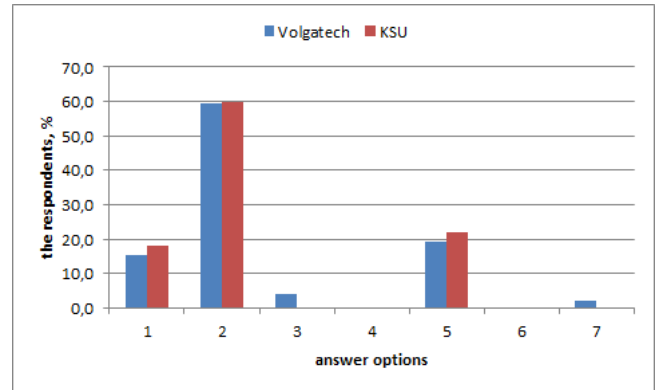


Fig. 3. What are the most important benefits of e-learning for you? Answer options: 1 Flexibility of the educational process. 2 Ability to combine work with study. 3 Technological training process (use of information technology). 4 Getting practical skills. 5 Training in a comfortable and familiar environment. 6 Ease of updating the content and the possibility of archiving old material: any educational material remains available for download. 7 I do not see any advantages.

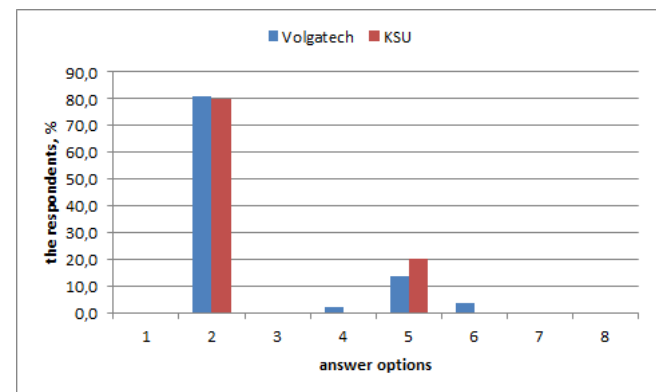


Fig. 4. Why do your teachers use distance learning technology in e-learning? Answer options: 1 Conducting individual lessons. 2 Placement of training materials. 3 Development of practical skills based on the task system. 4 Issuance of tasks for self-fulfillment. 5 Check tasks for self-fulfillment. 6 Control of acquired knowledge. 7 Work on an individual trajectory with students (gifted students, preparation for olympiads, conferences, competitions, etc.). 8 Other.

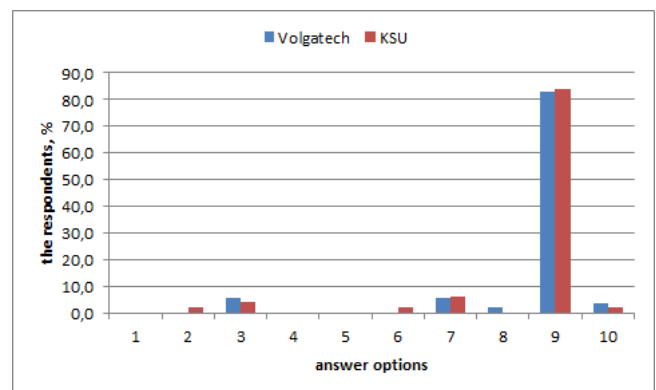


Fig. 5. Please indicate the best ways for you to interact with a teacher. Answer options: 1 Webinar. 2 Forum. 3 Chat. 4 Video services (Open meetings, Skype). 5 Practical work, presented in digital form, with feedback from the teacher. 6 Individual consultations. 7 Email. 8 Phone. 9 Social networks. 10 Other.

The promotion of distance learning will be facilitated by the development of methods for creating online courses, which include professionally designed visualization and meaningful content. In our opinion, this is a prerequisite for its effective application in the educational process, which was noted by respondents during the survey (Fig.6).

The results of the survey confirmed the view that the traditional form of training with classroom laboratory and practical exercises cannot be completely and completely replaced by distance learning, but only complement each other effectively, as a result of which a certain synergistic effect can be achieved (Fig.7).

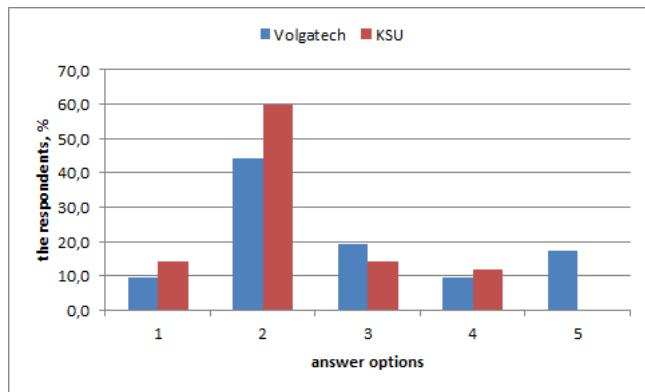


Fig. 6. Will the quality of your education improve using the e-learning system? Answer options: 1 Yes. 2 Yes, subject to good techniques. 3 No. 4 I doubt it. 5 Difficult to answer.

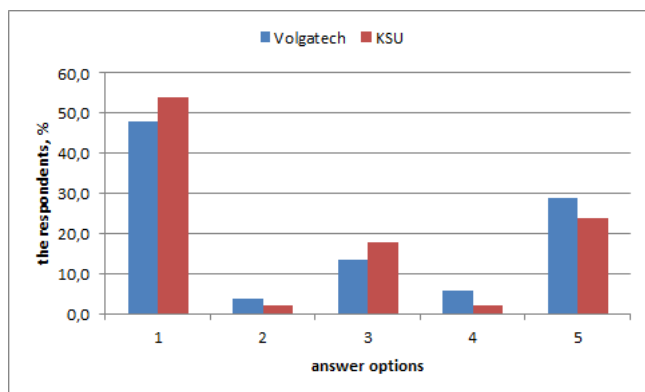


Fig. 7. How do you rate the use of e-learning at the university? Answer options: 1 As an auxiliary training. 2 As basic training. 3 I am neutral with the

use of remote technologies. 4 I am negative about the use of remote technologies. 5 I never thought about it.

IV. CONCLUSIONS

As a result of the study, the basic provisions on distance learning were confirmed, consisting in the possibility for students to independently form a convenient training schedule and forms of interaction with the teacher. At the same time, a critical condition for the development of online learning is the quality performance and content of the course. The use of distance learning is of particular importance for regional universities, as it provides access to teachers from leading educational and scientific centers not only in Russia, but throughout the world.

References

- G.M. Jacobs, W.A. Renandya, M. Power, Simple, powerful strategies for student centered learning, vol. 2. New York: Springer International Publishing, pp, 2016, pp. 195-201.
- E. Jeronen, I. Palmberg, E. Yli-Panula, "Teaching Methods in Biology Education and Sustainability Education Including Outdoor Education for Promoting Sustainability—A Literature Review," *Education Sciences*, vol. 7. pp. 1-19, 2016.
- M. Aktaruzzaman, M. Plunkett, "An Innovative Approach toward a Comprehensive Distance Education Framework for a Developing Country," *American Journal of Distance Education*, vol. 4, pp. 211-224, 2016.
- I.E. Allen, J. Seaman, *Digital Compass Learning: Distance Education Enrollment Report*, vol. 3. Babson Survey Research Group, 2017, pp. 43-51.
- M. Firat, "Measuring the e-learning autonomy of distance education students," *Open Praxis*, vol. 8(3), pp. 191–201, 2016.
- S. Manijeh Sadeghi, "A shift from classroom to distance learning," *International Journal of Research in English Education*, vol. 4(1), pp. 78-81, 2019.
- N.B. Anderson, D. Gualco, "Design of Distance Learning Systems Using a P-3 Model: Purposeful, Participatory and Project-Based. In *EdMedia*", *World Conference on Educational Media and Technology*, vol. 6, pp. 493-497, August 2016.
- P. Nagrale, *Advantages and disadvantages of distance education*, vol. 2. Babson Survey Research Group, 2013, pp. 33-42.
- N. A. Bijeesh, *Advantages and disadvantages of distance learning*. Retrieved from <http://www.indiaeducation.net/online-education/articles/advantages-and-disadvantages-of-distancelearning.html>.
- D. Akhmetova, L. Vorontsova, I.G. Morozova, "The experience of a distance learning organization in a private higher educational institution in the Republic of Tatarstan (Russia): From idea to realization," *International Review of Research in Open & Distance Learning*, vol. 14(3), pp. 67-73, 2013.
- <https://portal.edu.asu.ru/mod/feedback/print.php?id=59625>.