Achieve Efficiency in Creating an Electronic Course

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ABSTRACT

The article examines the experience that humanity has gained in the process of distance learning, to which it was forced to transfer during the pandemic due to COVID-19. Under these circumstances, it was necessary to abandon traditional education, and swap to digital technologies. The empirical experiment proved that distance education has significant drawbacks that affect the quality of knowledge and health, both physical and mental, the socio-cultural adaptation and socialization of foreign students. In order to achieve efficiency in the educational process, it is necessary to change the tools and teaching methods, since the digital learning format requires different approaches. The authors of the article come to the conclusion that distance education should be implemented as complementary to the principal, traditional one, that is, only in a complex (traditional plus distance) it can give positive results.

Keywords: Distance education, Traditional education, foreign language.

1. Introduction

Under the conditions of the pandemic due to COVID - 19 both in Russia and other countries, there has been a transition in the education system from traditional to distance learning.

During the first wave, e-courses were urgently created, various educational platforms were mastered, and the set of tools expanded.

Despite the fact that scientific, methodological and practical aspects of digital pedagogy were urgently developed in Russia, both teachers and students faced a huge number of problems and difficulties. Educators, revising the experience of the first wave of COVID-19, realized that, in order to avoid repeating mistakes, it is necessary to change their minds, methodological techniques and tools (Kalimullina et al., 2021).

The biggest mistake was the attempt to transfer traditional education into digital format, which led to certain losses in terms of both quality and efficiency of education.

Problem Statement. The problem is the following one: during the pandemic, there was a forced abandonment of traditional education. In this study, an attempt is made to identify the main problems that arose among students in the process of distance learning during the first pandemic, as well as to understand the methodological and pedagogical mistakes that were made in the process of online learning.

Research Questions. What problems and disadvantages of distance learning deteriorate the quality of education? How can we make distance learning more effective? What are the best techniques to be used when creating digital content?
Purpose of the Study. The purpose of the study is to identify how effective/ineffective the results of organizing the educational process of foreign students using digital technologies; compare them with the results of traditional education, as well as to describe the methodology for creating various types of digital conventions aimed at developing critical and creative thinking, professional skills and abilities of the student.

2. Research Methods

   The methodological basis of the study is made up of the principles and provisions of the systemic, structural-functional and comparative-typological approaches.

   An important methodological guideline in this study is the works of Russian developers of distance teaching V. Samoilenco, T.V. Tretjakova, who write about the modernization of modern higher education through distance learning (Samoilenko, 2017; Tretjakova et al, 2020). Ideas about the modernization of higher education are developed in works by Kuzu Ö.H., Malteva et al. (Kuzu, 2020; Malteva et al., 2020). K. Sandkuhl spoke about the consequences of the transformation of the traditional education system (Sandkuhl et al, 2017). Akhmetova’s observations on the use of digital technologies in the sphere of inclusive education are of great interest (Akhmetova et al, 2020). Making various fields of activity in higher education digital is also being actively discussed in modern pedagogy (Lazarenko, 2020; Starodubtsev, 2020).

   The works by Saenko (2020), Panova (2020), Filimonova et al. (2020) are of particular interest.

   The works by E.P. Panova are devoted to the role of project activities in teaching Russian as a foreign language (Panova et al., 2020). Various types of projects that can be implemented in a foreign language audience were described by the mentioned above author. The role of project activities in teaching Russian as a foreign language, various types and kinds of projects that can be implemented in a foreign language audience have been regarded in works by E.P. Panova (Panova, Bocharnikova et al, 2020).

   We also cannot but pay attention to the experimental studies that were carried out in the field of information technology among graduates: it is possible to define certain tendencies of development of IEE of a modern higher educational institution: processes of converting universities’ documents, document flows and communication channels to the electronic format; active introduction and use of electronic educational and educational-methodic documents; support of multisided and multichannel communications, interactivity, integration and efficiency of universities’ IEE by using the newest ICT, including the systems of electronic document flow, university websites and Internet services; decrease of expenses related to the support of communication process, increase of its efficiency and accessibility of its results not only for university students and teachers but for the society in general by using the “free ware” type software. It is necessary to mention external factors that affect universities» (Shaikhislamov et al, 2017, p. 43).

   We also cannot but pay attention to the experimental studies that were carried out in the field of information technology among graduates. Interesting engineering methodological projects have been offered by researchers Elena Vasilenko, Pavel Vasilenko, Natalya Saenko, Viacheslav Borysov, Svitlana Borysova, Iinya Prodan in the field of professional education of artists and designers in the academic environment: «Scientific approach and methodological developments, the creation of certain pedagogical conditions in the educational process of students in the direction of design and fine arts will increase the level of training of future professionals in this field. Innovative programs in academic drawing that will take into account the specifics of all areas and specialties in the visual arts are the most important aspects in the development of professional disciplines» (Vasilenko et al, 2020, p.3629).

   The works by Evgenia V. Gulyaeva, Yulia G. Semikina (2020) are of particular interest. They rightly state that: «Use of the project method in the course of intercultural communication not only contributes to axiological orientation of students, but also provides them with the opportunity to learn a foreign language in the natural language environment, achieve self-determination, self-actualization, self-fulfillment, socialization, form responsibility, and the ability to work independently» (Gulyaeva et al, 2020, p. 777).

3. Results

   Digital information technologies, which, as a rule, are quite successfully used in the distance education market, have been increasingly developed and implemented in the Russian education system in recent decades. A large number of educational and methodological projects have been written about the prospects and opportunities that open up thanks to distance learning, about the effectiveness of combining traditional and innovative teaching methods created with the help of digital technologies (Palyanitsina and Akhmedova, 2020; Dudukalov et al., 2016; Akhmadeev et al., 2020; Avvakumova et al., 2020; 22. Rahman, 2017). The COVID-19 situation forced us all to switch to distance learning mode. Traditional education had to be completely replaced by distance education, which led to serious difficulties and losses, revealed a number of methodological, psychological and organizational problems, which seemed impossible to resolve (Donohue, 2020; Nikolaevna et al., 2019). The first wave of the pandemic put the entire educational process in such conditions that it seemed that distance learning completely discredited itself, revealing a number of insoluble problems.
The transition from industrial to post-industrial society has changed a lot in the modern world, including our modern education (Lincényi and Laczko, 2020; Gapsalamov et al., 2020; Gabidullina et al., 2020; Zvereva et al., 2020). Today, society is transferring from personality-oriented education, where the main value is the formation of a fully developed, spiritual personality. Today society is guided by a test, by information, and therefore the entire structure of education is changing. The market is being conquered by digital education in a more and more extensive way, so previous tools stop working, which is why it is necessary to develop new ones. Lectures are a thing of the past, it is not the teacher who comes to the fore, but the media, as the carrier of the information.

We should consider some of the problems that emerged in the process of distance education in Russia during the pandemic:

1. Digital inequality is the first problem that exists in Russia. It turned out that in Russia there is no proper technical support, the Internet is not available everywhere, especially in the provinces.
2. Digital illiteracy. Usually modern educational institutions have all the technical support, but neither the administration nor the teachers know how to work on it. Technical illiteracy leads to the fact that equipped classrooms are closed and no one uses them.
3. Necessity to transform the educational process. It is essential to abandon the old tools, you need to introduce interactive, playful tasks focused on problem and project learning, tasks in video and media mode.
4. Students' inactivity. Students are not ready for independent activities. They do not know how to work in a team, they are poorly trained, unable to integrate into production processes. Hence there is a gap between practice and real production.

These problems are also due to the fact that the labor market of the post-industrial era is dying out, the general education of the industrial era is changing, the job market is also undergoing changes, and old professions are becoming a thing of the past. Mass professions are being replaced by individual processes. Thus, the job market is being transformed, and a new market is required. We should add that in this regard, changes in education are natural, in particular, the transition of education to a digital format. Besides, the development of artificial intelligence leads this sphere of human activity to global changes.

Undoubtedly, digital education has its advantages:
- Analytics of digital spaces and clarity of the educational process: everything can be opened, revised, recorded and analyzed online;
- Automation and inclusion: engaging new groups from inclusion to working people on different ends of the earth;
- Low cost of distance learning, its availability and transparency;
- The ability to undergo training at any convenient time within 2 hours;
- It is not fixed in space and in time, that is, there is an opportunity to learn from any space-time point convenient for a student.

To assess the success / failure of teaching Russian as a foreign language in the form of distance learning using digital technologies during the period of self-isolation, an experiment was conducted among students (154 people participated in the experiment), as well as among teachers (27 people participated in the experiment) of the Moscow Polytechnic University Preparatory Faculty and the Volgograd State Technical University of the Preparatory Faculty. The experiment involved students from different countries of the world (Guinea Bissau, Vietnam, Afghanistan, Palestine, Sri Lanka, Lebanon, Bulgaria, Iraq, Iran, China, Pakistan, Algeria, Bulgaria, etc.). As a result of this experiment, an empirical study has been carried out, thanks to which it is possible to formulate certain ideas about advantages and disadvantages of distance learning using digital technologies.

As part of the study, 92 students of the Volgograd State Technical University and 62 students of the Moscow Polytechnic University aged 18–28 were interviewed. The survey included questions of organizational, methodological and psychological nature.
- Inquiry of organizational nature.
  There was a student's survey and an interview of teachers.
  The student's survey contained the following questions: 1. what technique do you use when teaching remotely? 2. What programs (messengers) do you use when teaching remotely?
  The interview of teachers had such questions as: 1. what kinds of digital means of education do you use? What internet platforms do you use teaching distantly? Why are you using these very means?
  89% of the respondents answered that equipment malfunction, poor Internet, lack of high-quality digital technology interfere with learning. In addition, the students and teachers point to the lack of conditions at home, forced nature of teachers’ online work, organizational chaos, lack of an LMS platform, a lot of additional work for teachers, bad reputation of the format.
- Questions of methodological character. We offered a students' survey, which contained questions like these:
  1. Do you like to study remotely? (81% answered that they do not like to study remotely);
2. In what environment do you understand the teaching material better? (95% of the recipients answered that they understand the material better in an audience);
3. How well do you understand the teaching material in the conditions of distance learning? (67% answered that they do not understand the material very well);
4. How does distance learning affect the quality of the knowledge you receive? (58% answered that it affects, but not badly, 42% answered that it negatively). Many students answered that their knowledge of the subject has become much worse.
5. Do you think it is possible or not to learn Russian remotely? Opinions on this issue were divided, but in general, most of the recipients answered that it is possible to learn, but not very well – 41%, it is impossible to learn – 69%.

Questioning of teachers:
98% answered that distance learning forced them to abandon the types of work useful for mastering the material;
87% believe that distance learning worsens the development of students’ skills in the field of speaking practice (in comparison with face-to-face training), in the field of listening (in comparison with face-to-face training) in the field of written language of students (compared with face-to-face training);
78% of teachers answered that after some time, students stop attending distance learning classes;
83% speak about the destruction of mutual understanding and understanding between students and teachers, about the impossibility of an individual approach in the process of distance learning;
87% indicate that the level of motivation of students to study in the process of distance learning has decreased (by this time);
93% about the impossibility of quality control over the work of students in the process of distance learning.
- Questions of psychological nature.
   Students’ questionnaire involved the following questions: how long can you study remotely? The results of the survey revealed the following picture:
   40% can work 2-3 hours a day;
   28% can work 4 hours a day;
   12% can work 5 hours a day.
   Is it difficult or not for you to study remotely? (77% said it was difficult).

   Teachers’ questionnaire
   When answering the questions teachers pointed out the following negative factors that had lowered the quality of education: deterioration in health (67%), an increase in the amount of work during distance learning (85%), the necessity to get used to a new environment and poor adaptation (77%). Besides, we have to admit such factors as impairment of communication between teacher and students, decline in educational and working efficiency. Undoubtedly, the student is deprived of the language environment as his consciousness is narrowed to the frames of a square computer screen.

   The experience has shown that when practicing online it is impossible to achieve a high level of individuality development, socialization (since there is no live communication), the formation of responsibility or the ability to work independently (since there are no full-fledged forms of control); activity aimed at the development of creativity is also realized in a rather limited form, since a huge number of tasks and types of students’ work cannot be realized either during online lessons or on the online platform.

   Based on the results of the survey, the following conclusions can be drawn. The organizational sphere is characterized by the following drawbacks: compulsory principle of online work organization, chaotic character of this work, absence of LMS platform, a lot of additional work for teachers, bad reputation of the format.

   The methodological area has the following drawbacks: the complexity of knowledge control, lack of feedback, impairment and destruction of cognitive connections, weakening of students’ motivation to learn, destruction of socialization, communication and understanding at all levels, violation of discipline.

   The experiment proved that teaching Russian as a foreign language in a distance format in a technical university requires a different form of organization: new tools, techniques and methods of work are needed. At the initial stage of organizing work in a distance format, it is necessary to contact students with the aim of giving them certain responsibilities. Thus, it is necessary to select in the group the monitor, the system administrator, the chat moderator (who would follow the correspondence in the chat), the educational assistant (who would monitor attendance), the educational supervisor (to assist in the selection of examples, texts, articles), the videographer (since a person is needed who would be responsible for storing and deleting files). Doing so, the teacher releases himself from a number of tasks and allows himself a little free time.

   It is quite clear that distance learning requires the development of new competencies. The Ministry of Education has adopted the following competencies:
1. Communication and cooperation in the digital environment. The competence implies the ability of a person in a digital environment to use various digital tools that allow him to achieve his goals in interaction with other people.

2. Self-development in conditions of uncertainty. The competence implies the ability of a person to set educational goals for themselves to solve emerging life tasks, to select ways of solving and means of development (including using digital means) of other necessary competencies.

3. Creative thinking. The competence implies human ability generate new ideas for solving the problems of the digital economy, abstract from standard models: rebuild existing ways of solving problems, put forward alternative options for action in order to develop new optimal algorithms.

4. Information and data management. The competence implies the ability of a person to search for the necessary sources of information and data, perceive, analyze, memorize and transmit information using digital means, as well as using algorithms when working with data obtained from various sources in order to effectively use the information received to solve problems.

5. Critical thinking in a digital environment. The competence implies the ability of a person to evaluate information, its reliability, to build logical conclusions based on incoming information and data.

Consequently, the change in competencies during the scientific and technological revolution leads to the formation of certain skills among students studying with the help of digital technologies. The following students' skills are being formed: 1) the skill of self-development in conditions of uncertainty; 2) critical thinking skills; 3) communicative and cooperative skills.

Thus, in Russia, due to the current situation, digital pedagogy and practice-oriented methods aimed at immersion into the digital pedagogy are actively developing. Also, university teachers are being trained in an urgent manner how to create digital content correctly, how to organize work in an online format, how to prepare for a lesson. In universities, high-quality digital media content, available to students around the clock, began to form immediately. Retraining of teachers and administrators is underway, state educational standards are being updated.

Before you start creating digital content, the teacher needs to answer a number of questions of the following nature: How to achieve the set goal? What should the student understand or master? What should you demonstrate? What should you change in yourself? How to calculate the time?

In general, in digital pedagogy, there are several ways to build an electronic course, while the logic of the course and its structure are chosen by the teacher depending on the subject that he is developing.

This can be an overview course (an overview of a problem, this course is built according to a single template). This method of building a course can be applied in the humanities. It is possible to build a course using a chronological approach (historical and philological sciences), to consider some end-to-end situation in digital content - such a course composition is characteristic of exact disciplines. The arrangement of the material from simple to complex should be used in creating digital content for learning Russian as a foreign language; a situational way of organizing the educational process in digital mode (project approach) will also be effective, that is, students are divided into groups and each is given their own combination. The final lesson can be an analysis of mistakes.

When creating an electronic course in the Russian language for foreign students, the Austrian modern methodology which is called microlearning (based on the operation of content blocks), was used. One block (some unit of grammar) is placed in the center. It takes a certain amount of time to master the task in one block, usually 5-7 minutes. In general, a block is a minimal unit, or skill. Blocks form lessons, lessons form a course. The blocks are heterogeneous; a whole methodical complex is built up inside each block. The block includes work in groups, active and passive forms of work, switching. Part of work is done individually, part is discussed by the teacher, part is discussed collectively. Dividing content into blocks allows you to track students as they move from one block to another.

We will present examples of creating blocks in the process of developing an electronic course in teaching Russian as a foreign language, namely, a block in which some unit of grammatical material is studied. First, students are offered grammatical material to consider in a table. Further, students are shown a video explaining this material (3-5 minutes), then a series of exercises on the topic under study are given to complete (10 minutes), finally students are supposed to do 3-5 tests. Here is one more block related to text analysis. In the beginning students are provided with a text for reading and analysis. They are given 30 minutes to analyze the text. Then students have the opportunity to listen to the text on the audio track (3-5 minutes), after that, students should do post-text assignments (10 minutes). The block ends with text comprehension tests.

An important fact is that the media materials that need to be used in digital content must be quite diverse and are aimed at achieving certain results and developing students’ skills. It is known that Media is a good tool both for auditory and visual memorization and for entertainment.

There are three media models used in digital content:
1. Video: Short explanations of difficult points, popular science videos, video lectures from a teacher, news, reports relevant to practice, excerpts from video films, cartoons, demonstration of sounds and audio.


3. Media assignments: seminars and master classes.

We cannot but agree with the following statement: “Such properties and advantages of distance learning as flexibility (students work remotely at a convenient time, lack of necessity to attend classes), specially organized quality control (the form of control can be represented in the form of remotely organized tests, interviews, practical works, term papers and projects, exams), the use of specially organized training tools (electronic textbooks, video and audio materials, Internet sites, skype technologies, various types of Moodle platforms, LMS, etc.), the new role of the teacher (coordination of the cognitive process, correction of the course taught, management of educational projects) contributed to the successful ending of academic year. Thus, the technology of the educational process has come to be organized in a completely different way, which has significantly affected the degree, depth and amount of the subject information studied” (Panova, Saenko 2020, p. 96).

4. Conclusion

In conclusion, I would like to say that the experiment has revealed the main problems that arose in the process of distance learning: disruption of communication, deterioration of motivation, impaired cognitive skills, impossibility of socialization. In order to improve the quality of distance education, it is necessary to enhance digital literacy of teachers, develop methodological and methodological techniques, and search for new tools and approaches. Therefore, one should not forget that, in addition to developed technologies, the teacher and his professional level play the most important and significant role on the quality of education: «Thus, teachers' professional-ethical awareness was a key element in their pedagogical activity. It included not only the level of education, pedagogical abilities, but also professional behavior and professional appearance, the measure of which was moral and political reliability» (Nasyrova et al, 2020, p. 11212).

We should add that exactly the same problems are identified by the authors of the article E.P. Panova, N.V., Natalya Bochkarnikova, Elena V. Khripunova in which an experiment has been carried out that has revealed the pros and cons of distance learning in the process of organizing project activities in Russian as a foreign language.

«Therefore, a number of events were organized remotely, which significantly changed both the approach to organizing methods and the approach to assessment criteria. The reason for this was a whole set of reasons: firstly, having distance learning it is impossible to contact personally, which is why communication within the framework of the behavioral model of teacher-student and student-student is somewhat disturbed, as a result of which an emphasis is placed on the student's independent work. Secondly, the factor of social interaction decreases. Thirdly, it is difficult to cover a wide audience for participation in project activities, since in the process of online communication, the level of mutual understanding and understanding as such decreases. Fourthly, connections between people are weakened due to the lack of personal contact, which makes it difficult to organize an event, makes it difficult to involve and attract a large number of students» (Panova, Bochkarnikova et al, 2020, p. 706).

And also we should not forget that distance education can only be an addition to the basic traditional education, which must remain leading and basic.

Nevertheless, “Humanity could not assume that a situation in the world would develop in such a way that would require transferring education to distance learning due to the spread of COVID-19. All educational institutions of our country have gained invaluable experience in terms of organizing the educational process in the form of distance learning. The unique properties of digital technologies made it possible not to interrupt but complete the learning process at all levels of the educational system” (Panova, Saenko, 2020, p. 96).

But we must not forget that the rejection of traditional education in favor of distance learning entails certain significant losses in the field of the quality of education and, as a consequence, the ability to develop a harmonious and comprehensively developed personality subsides.

References

