

## MONITORING AND EVALUATION OF THE EDUCATIONAL RESULTS OF UNIVERSITY STUDENTS IN A PANDEMIC

## SEGUIMIENTO Y EVALUACIÓN DE LOS RESULTADOS EDUCATIVOS DE LOS ESTUDIANTES UNIVERSITARIOS EN UNA PANDEMIA

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### Abstract

The aggravated epidemiological situation makes adjustments to the activities of modern educational institutions. Today, there is a need to review the existing assessment tools in the context of distance education. The purpose of the article is to analyze the features of control in the e-learning environment. The subject of the survey was the attitude to the

existing process of intermediate, current and final control, as well as the use of tools and forms of assessment in remote conditions. The obtained data allow us to detect the need to correct the assessment and control process to improve the quality of training of students.

**Keywords:** organization of the learning, coronavirus, vocational education, infectious diseases.

## Resumen

La situación epidemiológica agravada hace ajustes a las actividades de las instituciones educativas modernas. Hoy en día, es necesario revisar las herramientas de evaluación existentes en el contexto de la educación a distancia. El propósito del artículo es analizar las características del control en el entorno de e-learning. El tema de la encuesta fue la actitud ante el proceso existente de control intermedio, actual y final, así como el uso de herramientas y formas de evaluación en condiciones remotas. Los datos obtenidos nos permiten detectar la necesidad de corregir el proceso de evaluación y control para mejorar la calidad de la formación de los estudiantes.

**Palabras clave:** organización del aprendizaje, coronavirus, educación vocacional, enfermedades infecciosas.

## 1. Introducción

The digital transformation of universities as a response to the pandemic is a kind of vector for the development of educational institutions in the future. We can say that after overcoming the crisis, professional educational institutions will not return to the previous formats of education that do not correspond to modern reality. The problems that higher educational institutions face today, solving the problems of assessing the educational results of students in distance learning, are seen in the lack of knowledge of the specifics of educational activities in critical conditions that appeared against the backdrop of a pandemic. The educational process in conditions of epidemiological disadvantage is organized by the new sanitary and epidemiological rules, which are aimed at ensuring a safe environment for educational activities (Petrichev et al., 2018). The full

transition to distance learning highlighted some issues, including the control and assessment of students' learning activities as an important factor in maintaining the quality of the educational process (Donetskova, 2019).

To resolve it, educational institutions are forced to look for reference qualimetric procedures that can provide an opportunity to ensure the reliability of the results (Arbeláez-Campillo et al., 2020b).

The peculiarities of modern assessment tools include focus on real results, a product that is created by a student in the process of educational activities; the ability to establish a correspondence between the planned and obtained results in the absence of live communication with the teacher (Lutfullaev et al., 2020).

Changing the assessment format is a necessary measure for the implementation of high-quality training of students. Routine and interim control is carried out online (Arbeláez-Campillo et al., 2020a). Tracking the veracity of responses becomes difficult. It is also worth noting that the educational process should be holistic, algorithmic (Chertovskikh, 2019). In a critical situation and an increase in the load on students and teachers, the problem of its consistency and consistency arises (Orlova, Lukashik, 2018). As a result, the educational process often comes down to students' independent mastering of materials and subsequent constant monitoring and verification of the results, which do not allow revealing a holistic picture of mastering the material, on the one hand (Filchenkova, 2019). Or, on the other hand, we are faced with the formal nature of monitoring and evaluation, which also do not give positive results (Gladkov et al., 2019).

The task of modern universities is to select and improve the means and forms of monitoring and evaluating educational results by the existing needs of students and teachers, the most effective in remote conditions.

## **2. Theoretical framework**

Throughout the history of human development, there have been periods associated with outbreaks of diseases. Epidemics of various kinds

(plague, cholera, flu, and other viruses) are part of the life of society, so society must be ready to organize life in an unfavorable epidemiological situation. The education sector is no exception. With the introduction of quarantine due to the spread of new coronavirus infection, there is a need to organize a safe educational process for health while maintaining social distance. The existing experience of implementing distance learning did not allow disrupting the educational process and stopping the functioning of educational institutions.

The COVID-19 pandemic has created unprecedented challenges for the education system as a whole and vocational education in particular. A complete transition to distance education has become an inevitable reality. Higher education institutions take decisions that help preserve the quality of education (Ponachugin, Lapygin, 2019). Methods and tools for evaluating students' performance are widely discussed in the Russian scientific community. However, today there is a demand for assessment methods that contribute to effective control in the context of a complete transition to distance learning (Eliseeva et al., 2020). The education system is extremely vulnerable to external threats. In the work of N. V. Trifonova, A. S. Koroleva, and E. S. Khutieva, the problems that influenced the transformation of the teaching system are grouped according to several criteria: technologies, workplace organization issues, digital competencies, assessment and control, and an increase in the volume of independent work (Trifonova et al., 2020). It should be noted that assessment and control are some of the most urgent tasks that affect the quality of training (Smedley, 2010).

Modern scientists are considering various ways to organize the monitoring and evaluation process (Oros, 2018). Both synchronous and asynchronous formats are chosen (Birzhenyuk, Efimova, 2020). With asynchronous, the teacher should take into account situations in which students are unable to perform an asynchronous control element due to late notification (Ivanov et al., 2020). The increasing amount of work negatively affects the physical and mental state of students, so it is not recommended to send tasks on weekends and set deadlines for the next Monday (Pinkovetskaia et al., 2020). The task of the teacher during control events is to inform students in advance about the order of control (about the site where the event will take place and where you need to upload files with completed tasks) (Akhmetshin, 2020). Alerts are sent via corporate mail or via ads in the LMS (Grigoriev et al., 2019). If the teacher

chooses the synchronous control mode, then video recording is mandatory to establish possible facts of cheating (Tishchenko, 2020). If such a fact is discovered, the teacher has the right to assign the student a retake (Kalinkina, Gorodetskaya, 2017). I. N. Emelyanova, O. A. Teplyakova, and G. Z. Efimova define that modern forms and means of assessment should: effectively test knowledge; determine the formation of competencies; encourage students to constantly search for information; and motivate them to create results (Emelyanova et al., 2019). Modern challenges of the time encourage the search for the most optimal ways to evaluate (Cirdan, 2019).

### **3. Methodology**

The purpose of the research is to identify the features of the process of monitoring and evaluating the educational results of students of higher educational institutions. The study sample includes 194 people. Respondents have the necessary technical capabilities to complete tasks in the framework of distance learning. As limitations of the study, we highlight the use of a random sample of students, which still has sufficient and representative size.

The subject of the survey was students' attitude to the existing process of monitoring and evaluating educational results in remote settings, preferred means and forms of assessment. The Likert scale was used for the study, data for which were collected during the spring and fall semesters of 2020. Each answer has its weight. The Likert score is expressed in the consent categories. Students were offered a statement that represents a statement that must be accepted or refuted. Statistical data processing was performed to identify the main difficulties of students during preparation for control and evaluation activities. The responses of the subjects took into account frequently occurring variants.

### **4. Results and discussion**

The organization of monitoring and evaluation of educational results at the University was carried out using Google functionality, which allows students to perform individual and collective control tasks. Zoom and

Skype capabilities were also used to evaluate educational results, and the electronic educational platform Moodle was used. Among the actively used assessment tools in the process of distance learning are tests; colloquiums; round tables, including discussions, debates. Tests are implemented in the organization of current control. Current control allows you to stimulate the purposeful work of students, the ability to work independently. Tests are the most common means of control, because they allow you to get automatic results and quickly work on errors. The teacher also receives data on the results of each student and takes corrective actions. The rating scale is based on several levels: optimal, acceptable, critical, and unacceptable (Pichugina, Bondarchuk, 2019). The Colloquium acts as a means of controlling the assimilation of educational material as a training session in the form of an interview with the teacher. To date, colloquiums are held in the Zoom environment.

Case tasks are performed on the Moodle platform. When evaluating the completed task, teachers rely on such criteria as the completeness of the solution; reasonableness of the answer; compliance with the sequence of professional actions (Davydova, 2020). The case allows you to test the student's ability to plan a sequence of professional actions and the completeness of their implementation. Depending on the number of questions, a certain amount of time is allocated.

Electronic work in project groups is of particular interest to students. They are grouped into working subgroups for each of which the corresponding topic is selected. To reduce the burden on teachers, students interact with each other and identify common issues of interest to each subgroup. In consultation with the teacher, the speakers selected from each subgroup ask questions.

An essay is a form of control that takes the teacher a significant amount of time to evaluate. The teacher monitors the logic of the presentation of the material, the presence of intermediate and conclusions, the use of scientific terminology, whether an individual point of view is traced. In the context of the pandemic, automatic verification of students' knowledge is being updated, so the demand for test tasks is growing. The final control is carried out in the form of tests and exams using the features of Zoom and other applications. At the same time, video is recorded to exclude the possibility of cheating. If such a fact is recorded, the student receives a score of zero. The existing experience in conducting distance exams is

quite small. Conducting exams in a remote format is an experimental area that requires improvement. The sample consists of students enrolled in various courses in higher education institutions.

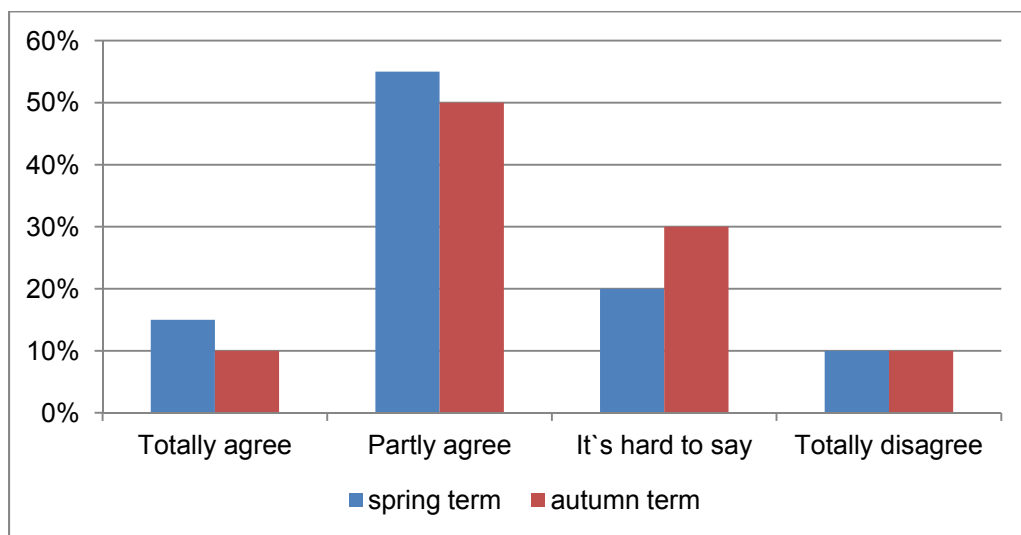


Figure 1. Results of statistical processing of respondents 'responses according to the statement" I am satisfied with the proposed forms of work used for monitoring and evaluating educational results" (spring and autumn semester 2020) (as part of our research)

The period of the beginning of the spread of coronavirus infection in the country is characterized by a sharp transition to distance education. During this period, students were not yet loaded with a large amount of work, and distance learning had a novelty effect, so the percentage of students who agreed with the approval is higher than in the fall semester of 2020. During distance learning, students were able to assess the difficulties encountered and highlight the shortcomings of the distance learning process. Figure 2 highlights the main difficulties faced by students during preparation for control and evaluation activities.

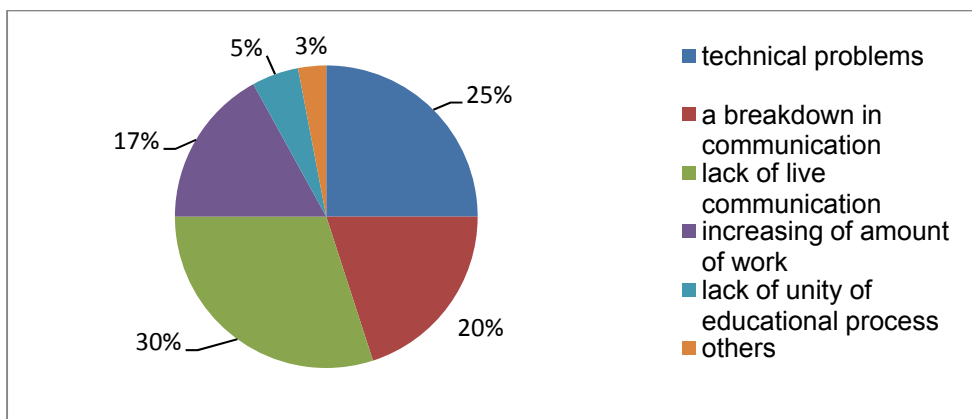


Figure 2. Results of statistical data processing to identify the main difficulties of students during preparation for control and evaluation activities (as part of our research)

The lack of live communication with the teacher has become a problem for a large number of students. Distance learning has increased the amount of independent work and preparation for control and evaluation activities without direct support from the teacher has become less structured. Students also have technical problems related to the operation of the equipment. Many people note the lack of a high-quality Internet connection.

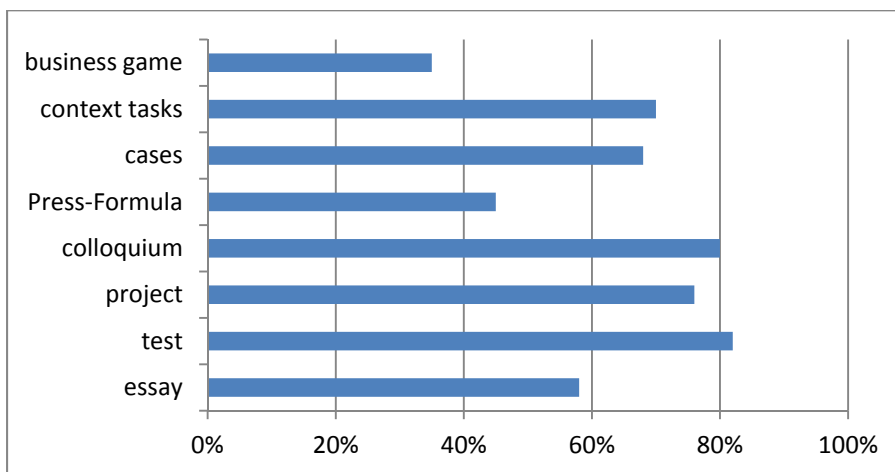


Figure 3. Results of data processing to determine the forms of control used in isolation conditions (as part of our research)



The most widely used forms of control during the isolation period were test tasks and colloquiums. Tests allow you to get an automatic result and quickly perform the appropriate corrective actions. However, they cannot be used in all forms of control and do not fully reflect the development of the material by students. Online colloquiums allow students to discuss issues in real time. Communication with the teacher contributes to the better development of the material. During the isolation period, teachers use projects. Students independently build work on the project, joining groups, and asking for help from teachers in an organized manner. The work is performed in a systematically and consistently. Solving contextual problems is also very important for students because it allows them to solve professional problems.

## 5. Conclusions

We analyzed the features of monitoring in the e-learning environment. Monitoring and evaluating educational outcomes in the context of an emergency, full transition to distance learning associated with the pandemic is a multidimensional process that requires detailed study and elaboration. The assessment and monitoring process is designed by educational institutions in such a way as to minimize the impact of negative trends from social exclusion against the background of the pandemic. Students are provided with conditions in which they can interact with their classmates and teachers and receive timely advice. They are provided with tools that allow them to track the educational activity of students. During a pandemic, these conditions help to preserve the learning process, but with the increasing burden on teachers and students in the absence of personal communication, monitoring and evaluation of students' activities need to be improved.

The study allowed to establish the forms and means of control, the main difficulties during the execution of the established tasks, to elicit the opinion of students about the ongoing control and assessment activities in pandemic conditions and to make systemic understanding of the issues and challenges that need to be resolved in the short term and to build an effective system of monitoring and evaluating educational results. Turning to value judgments about the forms of control used, we observe that tests, case studies, colloquiums, contextual tasks, and projects are most actively

used out of the entire set of tools. The results of the study show that the implementation of monitoring and evaluation of educational results today is accompanied by certain difficulties, which suggests the need to review the forms and means of implementation of current, intermediate and final control.

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