Modernization of Traditional Educational Forms in the Context of Distance Learning

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The research aims to reveal the contradictions and issues of higher education in the context of a rapid digital transformation related to the pandemic. We carry out a comparative analysis of students' academic performance in traditional, distance, and mixed educational formats. Based on the analysis of the literature, teaching practice, and the survey conducted with students, we revealed that despite the visible increase in academic performance during online studying and mixed learning environment, issues regarding technical equipment, stable Internet connection, students' non-involvement in the educational process, the change of their priorities in favor of part-time job or even the complete loss of communication with the university became more complicated. We conclude that improving the traditional educational form towards more effective ICT adaptation to lectures is crucial, including practical and laboratory classes. It is necessary to conduct classes in a digital format, despite the presence or absence of a pandemic. The mixed learning format will allow us to combine the advantages of traditional and distance learning.

Keywords: traditional academic education, traditional education with the support of ICT, digital modernization of traditional educational forms, mixed education format, distance education

INTRODUCTION

The global experience of distance education has caused changes in the entire educational system. The experience of universal online education leads to new opportunities that have recently been considered theory-based technologies of the future. The conservative world of education is changing, moving to the digital format. Recently, these changes occurred gradually, according to the pedagogical expediency, while the pandemic has promoted rapid digital transformation.

The changes in society, associated with the digital revolution in all areas of life within a rapid development of technology and blurring the boundaries of the digital and biological world, lead to increased requirements for qualified teaching staff and affect education. Under current conditions, the university's task is to prepare the young generation for life and work, adapting to the modern digital world. Graduates

of higher educational institutions should solve the most challenging professional and life tasks, possess modern scientific and technological achievements, have the flexibility of thinking and resourcefulness, including a creative approach in rapidly changing extreme situations. Moreover, they should focus on constant self-education, self-development, and self-improvement (Iskakova et al., 2019).

The issues mentioned above lead to the following *contradictions*:

- Between the modern requirements of the digital society for education and traditional teaching;
- Between the need to implement new aims of higher education, their understanding, acceptance, and limited technological resources, an insufficient level of participants' digital competencies in the educational process.

The stated contradictions indicate the problem relevance related to improving the primary traditional forms of higher education.

The analysis of the literature on this topic indicates the following *areas of national scientific research*:

- The methodological potential of traditional academic educational forms at the university;
- Improving traditional educational forms using ICT (traditional format with ICT support);
- Digital modernization of traditional educational forms (complete transfer of education to online or mixed format).

The second and third directions in scientific research are singled out based on the study by V.A Fandey (2011), who defines education in a mixed format as a combination of full-time and online studying. At the same time, a distinctive feature of education with the support of ICT is storing and transmitting information, excluding the interaction of participants in the pedagogical process.

In the direction of scientific research with the methodological potential of traditional academic educational forms in higher education, we refer to monographs, textbooks devoted to history, methodology, and innovative approaches to conducting lectures, seminars, and laboratory classes in higher education (Dautova, Krylova & Mosina), including the studies of V. S. Zaitsev (2018), G.I. Ibragimov, and R.G. Gainutdinov (2017). Moreover, studies by O.L. Zabolotneva, I.V. Kozhukhova, (2020) and V. F. Lelyukh (2018) examining the participants' attitude in the educational process to academic educational forms revealing their organization's methodology made a significant contribution in the field of modern educational technologies.

The study of traditional teaching with ICT support includes the works of A. V. Solovov (Solovov & Mishchuk, 2007). on the ergonomic recommendations for the preparation of electronic texts, designing computer illustrations, zoning information on the screen, V. N. Kruglikov (2017) on the research of the role of lectures in the educational process, recommendations for the use, conducting and preparation of interactive technologies, and V. L. Lekhtsier (2016) on the features of conducting lectures in the modern information environment, the research of teacher's situational competition and the global information space.

The third group of studies on the digital modernization of traditional educational forms is devoted to the works by V. A. Fandey (2011) on the mixed format models and formation of the classification of the considered models), Yu. I. Nazarchuk (2019) on the advantages and disadvantages of online learning approaches to assessing the effectiveness and quality of education through e-learning. A collective monograph edited by A. Yu. Uvarov and I. D. Frumin (2019) dwell on the general issues of education digitalization, the prospects of modern digital technologies in education, including artificial intelligence, virtual reality, and blockchain technologies.

In international studies on digitalization, the authors are trying to identify means to implement the digital modernization of traditional educational forms in a mixed education format, including issues of complete transfer to online education without losing the quality. It is crucial to emphasize the relevant educational form in terms of knowledge quality.

Scientists from the United States (Faulconer, Griffith, Wood & Acharyya, 2018) analyze traditional and distance educational formats and compare the results of students' learning. Therefore, they conclude that online education is more challenging, and some students fail to finish their education. Moreover, many students drop out of the study halfway. Thus, we identified that due to poor quality control, the assessment

in distance education is higher. Studies by Malaysian scientists (Markus, Atan, Talib & Latif, 2019). demonstrate that a mixed education format combines traditional and distance education, providing high-quality theoretical knowledge and practical skills. Without full-time study, the quality of knowledge seriously suffers. Scientists from India (P. Badhe, Y. Badhe & Patil, 2020) discussed the effectiveness of traditional education in their study. According to this data, only a third of students can independently examine and understand the topic without full-time study. The presented review demonstrates the distance education format as today's reality, indicating that its methods should be improved.

MATERIALS AND METHODS

We reveal the essence of the categorical apparatus of the study through the following primary definitions based on the degree of educational digitalization:

- Forms of an education organization (organizational forms) are external expressions of the coordinated activity of the teacher and students, carried out in a particular order and mode (Timofeeva & Senkina, 2004);
- Traditional academic educational forms are based on the lecture-seminar organization of the educational process. ICT in this approach is either not involved or used only for storing and providing information (ICT support for education is about 10%). Traditional education is dominated by communicating education when knowledge is transferred from teacher to student. The teacher is a subject that defines aspects of the educational process and performs informing, controlling, and evaluating functions;
- The traditional organization of education with ICT support is an organizational form that includes preparing and transmitting educational information to the students using ICT. This approach does not exclude the traditional academic form but provides it with new opportunities for further development. The most popular traditional means include computer tools for visualizing educational information, information retrieval systems, calculation programs, and simulators. Communicating education in this regard is still the primary form. The share of ICT in teaching is 10%–30%;
- Digitalization of traditional educational forms is the renewal of organizational forms of education due to the active use of information and communication technologies in the educational process. Within this approach, teachers delegate most of their functions to ICT: presentation of educational information, management of educational activities, statistical collection and processing of learning achievements, and communication processes. The teacher is a developer of educational content, an organizer, a consultant, and a communicator.

The digital modernization of traditional educational forms can be presented in a mixed and distance format, depending on the degree of ICT application in the educational process.

Mixed education includes combined courses, either with a predominant full-time component (30%–50% of ICT) or with leading distance education (50%–80%).

The distance education format is a network-based online training with the use of ICT (more than 80%).

RESULTS

The study's empirical data reveal the results confirming the effectiveness of the digital modernization of traditional educational forms in the pandemic (partial or complete transfer of education to online format). We obtained the data by interviewing students and statistical processing of reports on the students' academic performance within three semesters:

- 2019–2020 academic year, autumn semester (traditional academic form of study, traditional organization of education with ICT support);
- 2019–2020 academic year, spring semester (distance education format);
- 2020–2021 academic year, autumn semester (mixed education).

A total number of academic results and questionnaires involved 71 surveyed students.

TABLE 1
COMPARISON OF STUDENTS' PERFORMANCE DURING THE CONTROL PERIOD

	Traditional education 2019–2020, the autumn semester	Distance education 2019–2020, the spring semester	Mixed education 2020–2021, the autumn semester
Unsatisfactory marks, % (credits /exams)	4.1/8.3	0.5/0	3.4/4.5
An average grade for exams and differentiated credits	3.84	4.13	4.16

The results demonstrate an improvement in academic performance related to the digital modernization of traditional organizational forms with the transition to distance and mixed education.

We conducted a questionnaire within the study, defining the digital transformation issues of the educational process and the students' educational requests under current conditions. The empirical survey method is accompanied by a partial psychological and pedagogical interpretation.

TABLE 2
THE STUDENTS' CHALLENGES AND REQUESTS DURING DISTANCE EDUCATION

	Technical issues (%)	Psychological and pedagogical issues (%)	No / not formulated (%)
Challenges in distance education	48	55	20
Request for problem-solving	25	25	44

Technical issues of the students include a lack of necessary hardware and software, problems with the Internet connection, and instability in the operation of educational platforms. Psychological and pedagogical issues involve a lack of live communication, difficulties with self-organization, and challenges in independent study of educational material. The students' educational request indicates the need to improve the level of teaching staff in digital didactics. Students also require to increase interaction through online lectures, chats, e-mail, and messengers. Moreover, the evaluation of work should be personal, including detailed comments on the assessment and rejection of the binary scale. The students' answers also indicate a severe issue of the technical equipment of the educational process since the availability of computer and Internet access in the context of digital modernization has become a necessary condition for the realization of their right to education.

DISCUSSION

The experimental data are entirely consistent with the results obtained by international colleagues (Badhe et al., 2020; Faulconer et al., 2018; Markus et al., 2019). Despite the apparent success in academic performance in mixed and distance education, students suffer from the labor intensity of the process. In addition, we emphasized that the results demonstrate imperfection of assessment procedures, a lack of

development in digital didactics, and a lack of effectiveness of digital modernization of traditional educational forms (mixed and distance education).

CONCLUSION

The study has revealed the contradictions and issues of higher education in the radical digital transformation of educational formats related to the pandemic. Global digital challenges, intensified by the pandemic, have exposed the unavailability of an adequate response within traditional educational forms. It is impossible to achieve higher education goals, their understanding, and acceptance with the existing limited technical and technological resources for the participants of the educational process, the insufficient level of their digital competencies. Furthermore, teachers' methodological digital insolvency is manifested in the inability to provide the necessary level of understanding of the theoretical material, implement methodological support to students in task performing, and control students in digital form. The issues are complicated by the increased labor effort of students and teachers. The solution to these issues is seen in the restructuring of traditional educational forms of higher education towards more effective use of ICT (regardless of the pandemic), shifting from lectures and classes to communicating and reproducing. The mixed education will change the meaning of traditional informative and reproductive education, modifying working with the material within online and offline formats. For example, first, students independently work out new theoretical material presented by the teacher on digital platforms, then they learn in live (or online in a pandemic) communication with the teacher, discuss complex issues, analyze practical tasks, and solve challenging situations.

The practical significance of the study lies in the targeted identification of challenges regarding unsuccessful attempts to adapt traditional educational forms to the online format ("reading head," mechanical transfer of conventional work forms with practical tasks to a distance education format, reduced control associated with increased risks of cheating, simple copying without the ability to check their understanding). These attempts lead to students' formal acquisition of the material, including excessive and inefficient labor efforts of teaching staff. Consequently, it is crucial to conduct further study on the adaptation of traditional educational forms to the new digital environment by maximizing interactive classes using modern ICT facilities.

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