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Distance Learning Activation in Higher Education

Aigul Medeshova ^a, Akmaral Kassymova ^{b,*}, Zhazira Mutalova ^b, Gaukhar Kamalova ^b

^aM. Utemissov West Kazakhstan University, Republic of Kazakhstan

^bZhangir khan West Kazakhstan Agrarian-technical University, Republic of Kazakhstan

Abstract

This article discusses the pedagogical features, problems and directions of development distance learning organization. Comparative characteristics of preparation for traditional and distance learning are covered, and strategies for activating distance learning are described. The authors conducted research to improve the quality of distance learning for university lecturers. The aim of the study was to create an optimal environment for improving the quality of education by stimulating the activity of students in the context of distance learning. It is implemented through the active introduction of information, software, technical and methodological environment for distance learning in the relationship between learner and lecturer. Active methods, software, platforms, which played a special role in the study, were identified and recommendations for use in distance learning practice were described. The pedagogical conditions for the activation of distance learning and "mixed learning" are formulated. Although there is research on the problems of distance learning, there is a lack of methodological training of lecturers and learners, and even readiness of the educational organizations. This was revealed during the transition to mass distance learning under the influence of the COVID-19 pandemic. In this regard, the study complements the work on the formation of digital competencies of lecturers and learners of higher education. Research methods are focused on the adaptive use of teaching and learning strategies, teaching materials in distance learning in higher education.

Keywords: distance learning, content, synchronous learning, asynchronous learning, active learning methods, activation, digital competence, pedagogical conditions.

1. Introduction

Digitization has become a tool that accelerates the development of the world economy and improves product quality. In the changing period of human history, digital technology has raised

* Corresponding author

E-mail addresses: kasimova_ah@mail.ru (A. Kassymova), gokhakam@gmail.com (G. Kamalova)

all spheres of society to a radically new level. This is evidenced by the adoption of the state program "Digital Kazakhstan". According to the program, in 2022 the share of content of information technology services will increase by 70 %, the share of services in the market will increase by 32.5 % compared to developed countries. The digitization of education cannot be left out of the process of achieving such targets (State program "Digital Kazakhstan", 2017).

Over the last ten to fifteen years, significant changes have taken place in the structure of the education system in Kazakhstan. Learning and educational technology has become an effective tool for understanding the richness of the financial fund, the struggle for market development.

Digital education is formed and improved under the influence of mobile Internet, artificial intelligence, machine learning, large amounts of data, continuous economic development. Since the spring of 2020, due to the spread of the COVID-19 pandemic, the traditional teaching process of higher education in Kazakhstan, as well as in the world, has been transferred to distance learning.

At that time, distance learning, based on modern technological advances, played a leading role.

The Law of the Republic of Kazakhstan on Education clearly states that "distance learning is learning that takes place when teachers and students interact remotely, including through the use of information and communication technologies and telecommunications". In Article 37-2 of this document, this definition is supplemented with the following definitions:

1. "Distance learning is carried out in organizations of secondary, additional, technical and vocational, post-secondary, higher and (or) postgraduate education in the manner determined by the authorized body in the field of education.

2. In case of emergency, restrictive measures, including quarantine, declaration of emergencies in the relevant administrative-territorial units (individual facilities), local executive bodies and educational organizations introduce distance learning for all learners in the manner determined by the authorized body in the field of education (Law of the Republic of Kazakhstan, 2007).

Distance learning is a special learning technology that has many differences and advantages over conventional full-time or distance learning. It offers a different form of interaction between lecturer and learners, different educational content and different forms of teaching.

The possibility of activating the relationship between learner and lecturer of distance learning is studied, and the quality of education can be improved by adapting traditional methods of teaching to distance learning. Although this problem is in the spotlight of scientists around the world, it has not yet been fully resolved. Let's review the literature to clarify.

2. Literature review

The main purpose of the literature review is to support current educational initiatives in higher education. In particular, the identification of teaching and learning strategies for the development of personal flexibility through the organization of active participation of learner in distance learning. It helps to identify research methods and distance learning environments, content and digital activities.

The use of distance learning technology in Kazakhstani educational institutions and the issue of activating its participants are covered in the literature. It is studied in terms of technical, software, information (content), methodological support.

A.A Andreev considers distance learning as a system consisting of subjects ("digitalnatives") and objects (Figure 1) (Andreyev, 1999).

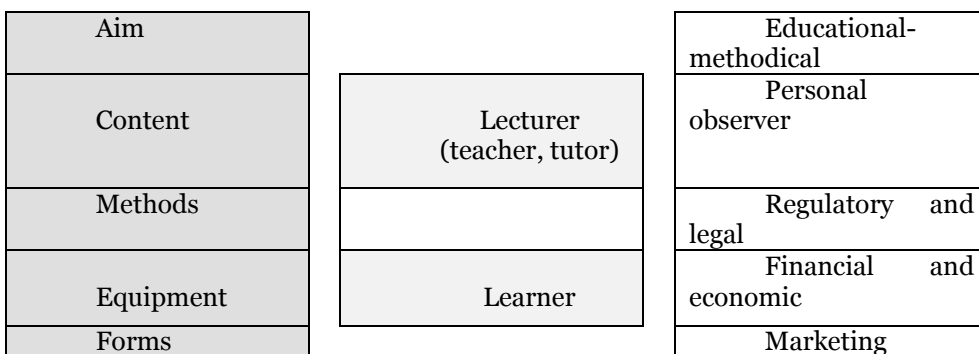


Fig. 1. The structure of the didactic system of distance learning

As shown in [Figure 1](#), the interaction between the subjects of distance learning depends on the purpose of teaching the subject, the content and methods of teaching. In turn, it is carried out in close cooperation with the material and technical base, regulations, financial and marketing support. It is obvious that the implementation of such a didactic system in the territory will cause problems for lecturers and learners or the institution.

Aiming to solve the problems of distance learning, scientists began to consider teaching in higher education in more detail. Distance learning is combined with e-learning, mobile learning. There are no fundamental differences in these studies, they only complement each other ([Table 1](#)). Our research is aimed at activating the activities of distance learning participants. Because distance learning is developing rapidly. Distance learning has bridged the gap between "distance instructor" and "distance learner". Bilateral relations with the scheme "from lecturer to learner" and vice versa "from learner to lecturer" developed the educational system of the technological revolution, and the word "distance" ceased to be a literary word and became a metaphor ([Bervell et al., 2021](#)).

Referring to the problems of distance learning, the Minister of Education and Science of the Republic of Kazakhstan A. Aimagambetov said: "We must recognize that distance learning is not equal to the traditional format of learning" ([Distantcionnoe obuchenie oshchutil na sebe..., 2021](#)). According to the Minister, the level of education of learners during distance learning has decreased. The questions "Can the use of active traditional teaching methods in distance learning not contribute to the decline in the quality of education?", "Should methods be adapted or transferred?", "What should be done to activate distance learning?" needed to be answered.

Table 1. Representation of the research problem in the literature

Direction of analysis	Content and features	Authors
Technical support	Bangladeshi scientists plan to conduct online training at the university using mobile devices. Currently, the world has introduced not only mobile applications for distance learning, but also social networks.	M.S.H. Khan, B.O. Abdou, J. Kettunen, S.A. Gregory (2019)
Software	Italian researchers have found that while traditional teaching focuses on learners' perception and understanding of the lecture by observing them, distance learning has very little control over it. In order to solve this problem, software installed on the learners personal computer and running in the background architecture	G. Bonnin, D. Dessì, G. Fenu, M. Hlosta, M. Marras, H. Sack (2022)
Information environment	Opens in connection with STEM. Comparing the possibilities of using a remote virtual laboratory with laboratory work in traditional learning, it has been proven that learners can control and manage computer objects, data and phenomena in an interactive mode to achieve the learning objectives of laboratory practice in a virtual laboratory. The results of the study showed that distance learning strategies have a viable, meaningful educational approach.	L.O. Flowers, E.N. White, J.E. Raynor, S. Bhattacharya (2012)
	The e-learning publication ensures that the content is relevant and understandable to the curriculum.	V.Yu. Shurygin, L.A. Krasnova (2016)

Methodological support	Digital activity has a special place in distance learning. Because interactive, constructive, active, passive forms of learning are used systematically. For example, it is provided that the learner gets acquainted with the video content presented as educational material before the lesson and analyzes it during the online lesson	A. Lohr, M. Stadler, F. Schultz-Pernice, O. Chernikova, M. Sailer, F. Fischer, M. Sailer (2021)
	Emphasis is placed on teaching the "inverted class" method in connection with gamification.	A.Y. Gündüz, B. Akkoyunlu (2020)
	Arto O. Salonen, Annukka Tapani, Sami Suhonen believe that in pedagogical schools it is better to combine distance online learning and traditional learning and move to "mixed learning".	A.O. Salonen, A. Tapani, S. Suhonen (2021)
	Blog writing, question-answer, the use of psychological and pedagogical bases of formation of the media background in the Internet (three-dimensional tour design), the use of Internet images, emozi, and the impact of standardization of digital educational resources in the educational process between teachers, students and their parents are described.	E.A. Sorokoumova, E.I. Cherdymova, E.B. Puchkova, L.V. Temnova (2021)

Based on the research, it can be assumed that if the activation of relations between the participants involved in distance learning will improve the quality of education, it is necessary to prepare for technical, software, information (content) and methodological support.

3. Research methods

The research was conducted by analyzing educational publications on the topic, questionnaires and experimental control methods. Adaptation of active methods of traditional learning was considered as an effective means of activating distance learning. These methods were considered effective in proving the research hypothesis and due to the diversity of teachers' digital competencies.

Based on the analysis of theoretical and experimental work, changes in the program, technical, informational, methodological training of lecturers and learners' motivation for distance learning and the quality of education were identified, and the types of educational activities were associated with increasing student activity.

Scientific and methodological research was analyzed in accordance with the topic. Pedagogical works were considered to define the concept of activation of distance learning. However, complementary views prevailed over contradictions.

Surveys and interviews were conducted to identify the gap between traditional and distance learning, to assess the activity of university learners and to determine lecturer training. The study was conducted in accordance with the educational programs of physics and computer science, mathematics and computer science, computer science for 2019–2021. The study was conducted on the basis of the M. Utemisov West Kazakhstan University. It was attended by 59 lecturers who participated in the study, 14 were professors and associate professors, 23 were senior lecturers, and 22 were lecturers and assistants.

Teachers involved in the experiment were divided into two groups according to their digital competence. Experimental group consisted of 2 professors, 3 associate professors, 10 senior

lecturers, 11 lecturers from the Informatics department and Control group consisted of 1 professor, 8 associate professors, 13 senior lecturers, 11 lecturers and assistants from the Physics and Mathematics departments. Lecturers of the Department of Informatics have been believed that they can adapt to distance learning in a short time due to fluency in digital technology. The average age of the experimental group is 35. Lecturers of Physics, Mathematics departments have different digital competence levels and form a control group. They were considered to develop guidelines for preparation for distance learning, and methodological seminars and trainings should be organized. This is because the transition to distance learning requires special training for the control group, and requires a lot of time. Average age in the control group is 50.

In order to organize distance learning, it is first necessary to accumulate information resources. That is, there is a need to create an information educational space. Training materials are provided in the form of scanned electronic versions of traditional textbooks, electronic textbooks, video lectures, audio recordings, online courses, websites. Different educational platforms can be used in combination. According to the information readiness of the lecturer who participated in the study, 39 % of the distance learning materials in the form of text, modified and updated compared to the information provided in traditional teaching, 27.1 % based on Internet resources, supplemented with video material and increased the number of resources by 33.9 %.

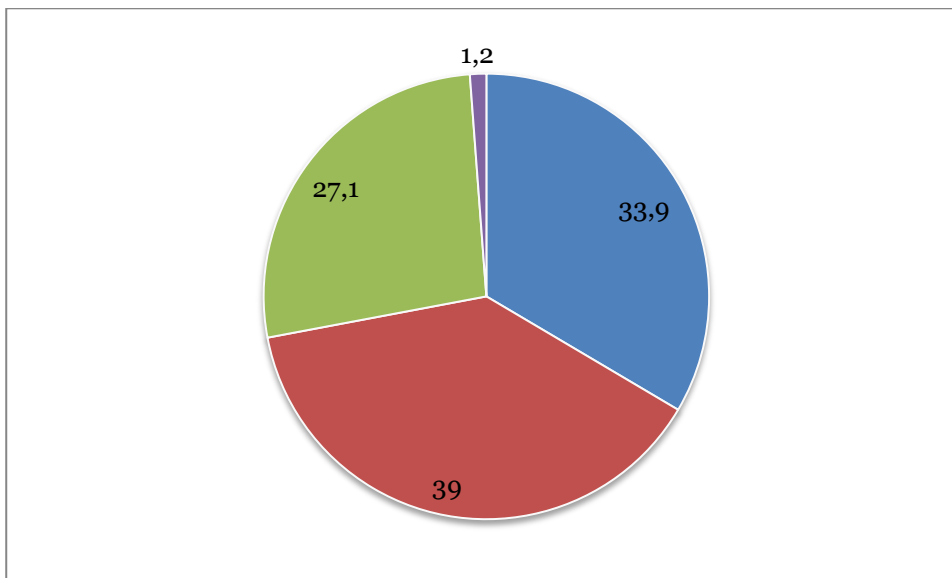


Fig. 2. Content preparation

Technical and software training includes the creation of favorable conditions for lecturers and learners. The administration of the university should pay attention to the normal functioning of the network environment, the stable operation of a common software platform available to students and lecturers. During the mass transfer to distance learning, the university helped to provide lecturer and learners with the necessary information technology and facilitated stable and mobile operation of the software platform and portal.

Psychological training refers to the digital competence of the lecturer and the learner involved in the educational process, the attitude to the combination of physical and mental activity with information and communication technologies (Chorosova et al., 2020). Special methodological seminars and trainings were held to help elderly lecturers to work with programs for content development and online lectures.

Another feature of distance learning in higher education is step-by-step learning. Registration of learners in the course of step-by-step training, determination of the lecturer's workload, semester planning, scheduling, monitoring of tuition fees, exam scheduling and administrative work, etc. The learner's self-study, research, development of joint projects are organized through the integration of synchronous and asynchronous modes (Distance education, 2021).

Synchronous communication is a type of educational activity in which real-time lessons are conducted via the Internet.

Asynchronous communication is a type of educational activity performed offline, when the Internet is disconnected.

Integrated or combined learning is a technology for organizing the learning process, which includes the combined use of traditional learning and e-learning, mobile learning, distance learning formats (Weindorf-Sysoeva et al., 2017).

At present, the university has a combined curriculum. According to Russian researchers, in the future 40 % of teaching will be devoted to distance learning. 20 % of all hours are independent work, 40 % are in the form of traditional training (Pavlutskaya, Dubitskaya, 2016). This requires the development of distance learning competencies of the lecturer.

Methodical training began with the lecturer's use of traditional teaching methods for distance learning, the search for ways of active learning. Preparation for quality distance education for learners begins with the lecturer's distance learning. Lecturers (in 2019 – 50 %, in 2020 – 90 %) during the transition to mass distance learning Coursera, Lektorum, Intuit, Stepik, Microsoft, OpenU, etc. Lecturers took a subject online course on popular platforms and strengthened his professional competence. According to the survey, during traditional training 71.4 % of lecturers often use the active method, 5.1 % do not use it, and the rest rarely use it.

Table 2. Readiness of teachers for distance learning, 2020, February

Question	Traditional teaching	Distance learning	Combined learning
What is your opinion on learning technologies?	Results-oriented learning, direct communication	Communication is carried out remotely, the quality of education decreases, it is difficult to learn in Moodle	Practical lessons can be conducted in the classroom, the problem of network communication often arises
What teaching methods have you used?	Board work, group work, colloquium	Project, web conference	Online lectures, file sharing, essays
In your opinion, how do teacher competencies develop?	Participation in advanced training courses and seminars at the university	Take a distance learning course	Internet resources, use of Youtube materials

As shown in Table 2, despite the fact that teachers conducted distance learning for half a year, there is a low level of training (technical, software, methodological, psychological). If lecturers' knowledge of distance learning was compared with Bloom's taxonomy, it corresponded to the level of knowledge and understanding.

The readiness of learners and undergraduates for distance learning was tested by interview. As a result, 25 % of them say that it is possible to study part-time, which saves time, 45 % say that it is inefficient, traditional teaching is desirable, and the remaining 30 % prefer mixed education.

Methodical webinars in the Republic of Kazakhstan were organized at the ENIC-KAZAKHSTAN Bologna Process and Academic Mobility Center (ENIC-KAZAKHSTAN, n.d.), in each educational institution, online courses "Online technologies in teaching" (Medeshova et al., 2021b), "Methods of teaching computer science" (Medeshova et al., 2021a), "Learn distance learning" were developed, Distance learning courses: "Development and improvement of IT competencies of lecturers", "Learning distance learning", "Online technologies in teaching", "Modern technologies of education and training", "Digital tools for distance learning". The impact of such measures on the learning process is clear from the results of the following survey (Table 3).

Table 3. Preparation of lecturers for distance learning, September 2021

Question	Traditional teaching	Distance learning	Combined learning
How would you describe the features of teaching technology?	Human communication, psychological atmosphere enhances activity	Allows to study online, offline, spends time on scientific and practical research	Classroom and online consultations, online resources, laboratory work improve the quality of education
What teaching methods are the most effective?	Individual and group work, seminars, lectures, active methods, control work, full-time training	Online course, presentation, screencast, group online project, online testing, computer game, dual training, self-study	Webinar, video lecture, group work, laboratory work, testing, exam, part time training
What problems do you think are there in the process of mastering learning technology?	Time constraints, material base	Technical, professional skills	Insufficient level of information competence
How did you improve your digital skills?	With the help of my colleagues	Distance learning course, Youtube channel	Webinar, scientific-methodical seminar

The experience of distance learning and the development of teacher competencies are shown in [Table 3](#). The practice has improved the teaching methods of lecturers.

Ways to effectively combine distance learning with traditional learning:

- determination of the expected result (the expected result is clearly stated in the syllabus)
- identify ways to evaluate the results (learning objectives, criteria for evaluating the results are clearly presented)
- creation of inclusive learning environments (use of optimal distance learning environment for learners)
- identification of teaching methods and equipment (selection of learning environment and resources) ([Osobnosti organizatsii..., 2020](#)).

The most important issue is the choice of educational environment. It is planned to use the world-famous platforms Moodle, Sakai, BlackBoard. Moodle platform for asynchronous learning software (<https://moodle.wksu.kz/>, <https://estudy2122.wku.edu.kz/>), Google Classroom (<https://classroom.google.com/h>), Platonus (<http://platon.wksu.kz/>), e-mail, cloud technology were used. Cisco WebEx, Zoom, Google Duo, WhatsApp software applications were used for synchronous learning. Edmodo forum, analysis, Emaze, Canva, ProShowProdesk presentation, Cloud school lecture, test environment observations, iSpring web page slides and tests, master tests, online test pad tests.

The possibilities of technical support of learners reaching different social groups (network, computer, telephone) were taken into account.

Information support of distance learning. The availability of electronic library resources has made it convenient to work independently. During the preparation of abstracts, drawings, project works, it was possible to obtain materials from the funds of the Republican Library, and also to learn. Not only lecturer learned the difference between an e-book and an e-textbook, to learn to use them. Get acquainted with the programs for the production of audio and video recordings. Learned how to download and use screencast and podcast programs from a virtual disk.

Methodological support depends directly on the active distance learning. The most commonly used methods are inverted group, online station (Figure 3; Dammer, 2020). Here students got acquainted with the educational material in the syllabus. In asynchronous mode, the lecture was presented in the form of a video lecture, text or presentation, web page. References to Internet sources are provided for additional information. Unclear questions of the lecture were analyzed in synchronous mode. Practical work was carried out in a mixed mode.

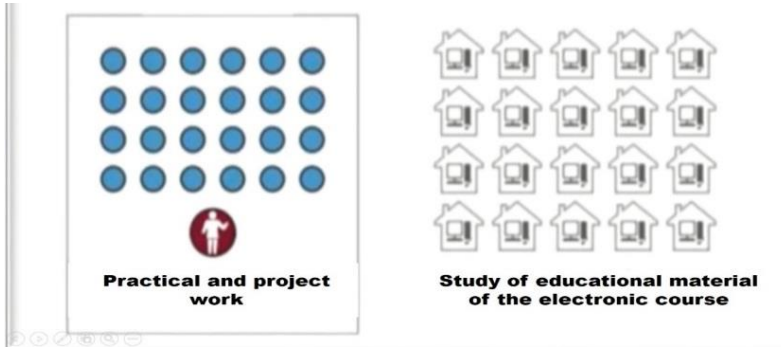


Fig.3. Distance learning methods

The analysis of the lecture used the methods of minilessons (mini-lessons), educational partnership, Highlighted print materials, video recorders, missing paragraphs, random headings, puzzles, angles.

Methods of performing practical tasks have been updated. For example, chamomile flower, PechaKucha (Figure 4), Bloom's cube, Fishbone method (problem, cause, facts and arguments, conclusion), etc. (Zhebrovskaya, 2017).

To draw conclusions on the topic, "mirror / mirror", three questions (what is good? What is bad? What is interesting?), Insert methods are effective.

Active feedback methods can be used in the analysis of the lecture. sent a photo abstract/photo thesis or video comment. Everyone presented their thoughts in full or in the form of a short synopsis of what they know on the topic. Video feedback allowed the teacher to get acquainted with each student individually (speech style, speed of systematization, appearance, etc.) during distance learning.

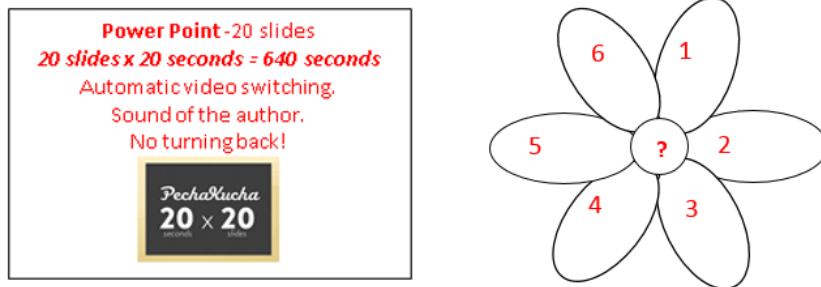


Fig. 4. Tasks

Questions of chamomile (1 – simple, 2 – refinement, 3 – practical, 4 – interpretation, 5 – creativity, 6 – assessment)

The harmonious combination of synchronous and asynchronous learning and active methods and software platform played an important role for both the teacher and the student.

Synchronous teaching requires a great deal of training from the teacher. After all, the development of lectures, video lectures, tests and communication scripts, testing, mass surveys, clusters, etc. Systematization of methods should be prepared for results-oriented learning. However, as a result of its combination with asynchronous learning, a "small jump" or "transition from solitary to general" was made. This showed the professional competence of the teacher.

The professional competence of a teacher is combined with information and communication competence in digital education. A teacher is called a tutor in traditional teaching and a facilitator in distance learning. Facilitator (English facilitator, from Latin *facilis* "convenient") – a person who provides fruitful group communication, ie, collaboration of students (Facilitator, 2021). A competent teacher is free to play his role, regardless of the technology.

Pedagogical principles and conditions of traditional teaching are also observed in distance learning. This develops the key competencies of the learner (Boronenko et al., 2017; Imashev et al., 2020). The use of active methods in distance learning does not preclude the interpretation or use of traditional learning technologies such as business games, role-playing games, training, teamwork, brainstorming, heuristic storytelling, research, etc. computer design, virtual master class, online discussion, electronic case, online lecture, electronic portfolio.

It is impossible to use in distance learning without knowing the order of discussion, debate, round table, master class. Each active method requires different training (Grigorash, Trubilin, 2014).

One of the most important directions is the active distance learning of gifted learners. Talented learner has a high propensity for independent learning, intellectual, learning activity. Such learners require special attention in distance learning (Abakumova et al., 2019, Dabletova et al., 2017; Dabletova et al., 2018).

The gamification contributed much to activating distance learning. Students formed LearningApps, Educandy, Wordwall, Kahoot platforms to compile thematic games and paid attention to their graphic decoration. That is, they focused on the content and design of the game. While decorating digital, communicative competencies with the use of an interaction the graphic editor has been formed; blog, question-answering were formulated in the processing of video.

The students used a computer graphic flash games, using independent work tasks when performing asynchronous mode. The subject competence of students has also been developed.

In distance learning, learners select and analyze the proposed multimedia work, educational materials presented in the learning environment, depending on their digital competence. This, in turn, contributes to the activation of asynchronous learning (Dabletova et al., 2017; Dabletova et al., 2018).

This study was conducted as part of educational and practical activities, where learners assessed the formation of their own special digital and pedagogical competencies according to Bloom's taxonomy. Thus, the technical, software, information, methodological support of distance learning revealed that the quality of education is lower than that of traditional learning and led to the definition of pedagogical conditions for the activation of distance learning.

3. Results

In the study, learners' mastery of learning materials through active distance learning did not show a lower level than traditional learning. Active methods have increased learners' interest in learning. The lecturer's efforts to transform online lessons and increase learner engagement showed a high level of academic achievement. It also depends on the fact that the lecture material in different forms assigned to asynchronous learning is understandable to the student and the task is given with a link to Internet resources.

We present the results of the study on mathematical statistics. Traditional study of "Computer Graphics" by learners in the 2019–2020 academic year, indicators for distance learning in 2020–2021, combined learning in 2021–2022 were analyzed in Figure 5 by the method of statistical analysis (Figure 5).

Here the experimental and control groups were divided into "internal group" forms. That is, students studying subjects were divided into two groups with their own discretion. Active methods have been used in the first year (traditional training), second year (distance learning), in the last year – combined training classes in the experimental group, and traditional methods have been used in the control group. The syllabus, educational materials (content), software and software were presented equally.

The results of the experiment with numerical characteristics were faster than in the control group. The quality of education has increased by 4-10 % (Figure 5).

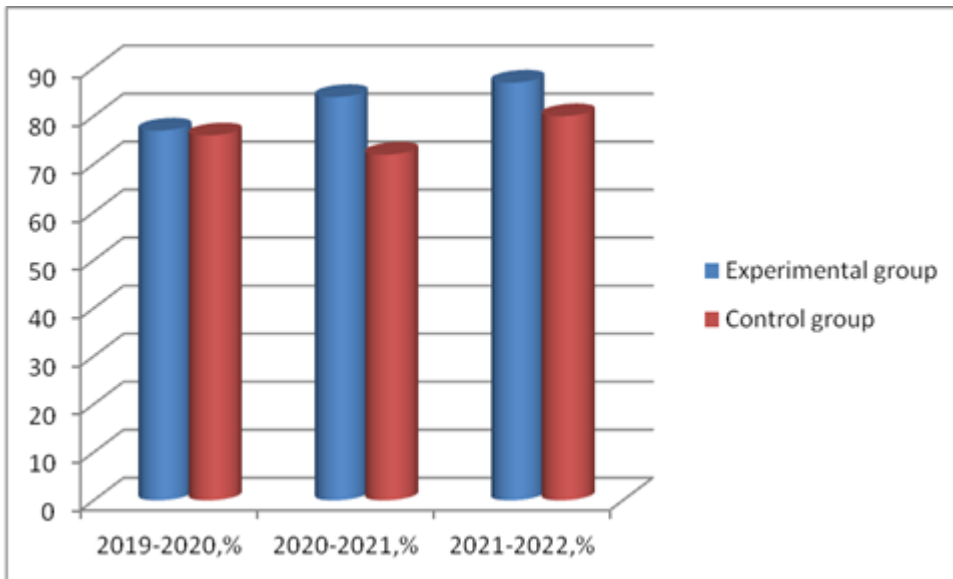


Fig. 5. Changes in the quality of education

The effectiveness of activation of training was determined by a 1 % difference during traditional training. Interaction in distance learning showed a high level of studying and systematization, analysis and systematization of learning material. This was clearly shown by the improvement of the education quality. The effectiveness of distance learning was revealed due to the difference in the quality of education.

The results of the experiment in comparison with the control group were more intense than the digital characteristics. According to our research, compared to the beginning of the experiment and the quality of education at the end of the education, it has increased by 10 % (Figure 6).

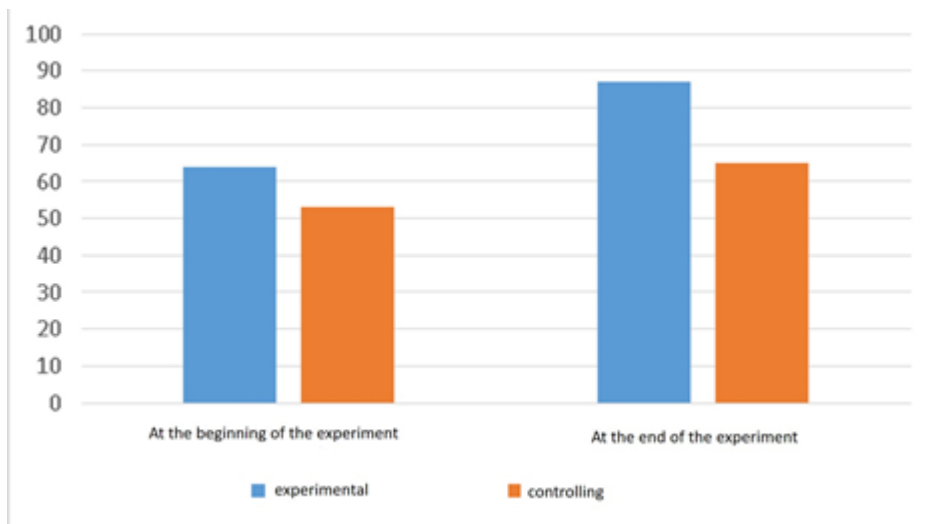


Fig. 6. The results of the study

As a result of theoretical and experimental research, based on pedagogical principles, it was concluded that the following conditions must be met in order to activate distance learning:

- selection of the optimal hardware and software for training (hardware and software conditions),
- development of educational information, ie content in various forms (information provision conditions)

- the use of active methods of traditional learning, adaptation to distance learning (conditions of methodological support),
- be prepared to implement a culture of working with digital technology (a condition of having a digital culture).

Distance learning can be effective only if these conditions are met. Interviews with learners (17 learners) showed that the lecture was interesting, increased interest, enthusiasm, access to content outside the lecturehalls, videos, podcasts, web pages, game tasks lead to the analysis and organization of the topic. Therefore, the training of lecturers (Medeshova et al., 2016, Medeshova et al., 2020) had a significant impact on the development of content, the choice of software environment, the active conduct of distance learning. The quality of education has improved when lecturers use active teaching methods freely in traditional, distance and mixed learning.

This has constantly enhanced the digital competence of every lecturer. In order to organize distance or traditional learning, a lecturer must first take on the role of a learner. Because today's technology is full of innovative approaches. An open online course, video lectures are effective not only for distance learning, but also for traditional learning. Coursera, Stepik, Microsoft, Lectoruim, etc. are involved in improving the methods of distance learning. Open online courses are offered. Author's courses "Online technologies in teaching", "Methods of teaching computer science" became the basis for planning and organizing distance learning.

4. Discussion

The intersubjective relationship between lecturer and learner in traditional teaching (Figure 7) began by the end of the twentieth century and are also a topical issue in the research of the XXI century (Bervell et al., 2021).

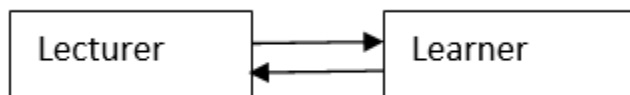


Fig. 7. The relationship between lecturer and learner

The use of distance learning at the university is expanding. However, we noticed from previous studies that its terminology has not been formed yet. In particular, Dr. Angel Smrikarov (2020), professor of Bulgarian University, considered integration of synchronous and asynchronous mode of distance learning with traditional teaching of remote learning, Salonen et al, (2021) used "mixed training". The next work provides for "mixed training" to convert traditional facial education with distance learning (Bervell et al., 2021).

In our study in accordance with the latest literature, the compatibility of traditional learning with synchronous and asynchronous modes of distance learning was considered as "mixed training" (Hrastinski, 2019; Ashraf et al., 2021; Xu et al., 2021). During traditional training we considered the synchronous training of some students through a remote video conferencing as a "hybrid training". Proper use of terminology, describing their meaning is one of the most important issues in improving the methods of distance learning.

The following analysis says that all scientific and methodological works (brief, ICT) are conducted in all scientific and methodological works of the traditional learning in relation to figure 7 above. We systematized them and offered in the form of a drawing (Figure 8).



Fig. 8. Interdisciplinary communication in digital education

This relationship reflects the technical support of distance learning. The distance learning management system (LMS) used in many universities (LMS) covers issues of inter-subjector

communication, ICT infrastructure. The solution of these issues is not carried out only through technical support, which has a significant influence on the software environment.

Research work conducted in recent years on the program of distance learning complement each other.

Bervell has developed a reception scale (Blas) of mixed education in higher education. The study on the reception of distance learning was carried out only on tutors and data was processed on the basis of the Likert scale. Factors influencing distance learning are grouped as performance, expected efforts, social impact, facilitation, independence, self-efficiency, experience, behavioral and operational voluntariness (Bervell et al., 2021). Some factors in our study are considered from the pedagogical point of view in the methodological support of distance learning.

In the methodological support of distance learning, "an upside down class" is of special attention. Gündüz (2020) proposed to conduct actively feedback through game elements. The use of gamification in the "Inverted class" has increased schoolchildren's motivation to study. In our study, the use of game elements in the "Inverted class" was considered for students of the pedagogical specialty at the university. That is, it was used to adapt to future teachers. As a result, the games applied to distance learning awakened the study of students to increase the quality of education. To Gündüz, Akkoyunlu's opinion (2020) it is important to use research results in pedagogical educational institutions and create a methodological portfolio of students.

E. Sorokoumova (2021) has considered digital communication of students in the Internet environment. In the scientific work digital technology and digital products are considered as their positive attributes, such as leading ability to think about and dangers, as the addiction on the Internet, and traditional training of teachers can be used to develop the Internet environment for the development of subject competencies. It was proved that it can use active learning methods in online training.

The role of design and smart technology is very important in activating distance learning. Astashova et al. (2021). Has considered the spread of interactive technologies and ICT tools in higher education to improve the skills of interactive technologies as a key component of training and professional development, if technological resources are considered as a key component of educating and professionalism, remote learning in the study of distance learning; the transmission was carried out as a digitalization process and adaptation of ways to develop a digital competence of teachers and adaptation to the student's learning technologies in distance learning. In particular, students were able to prepare integration projects using the knowledge they have received at the university. Using teachers' attitude to design, smart and cloud technology (QR-CODE, Google Disk, Google Classroom, etc.) students' knowledge has been studied from the technological point of view.

In terms of information support of distance learning, Lohr et al. (2021) studies the role of video content in online training. The video was considered as a part of the study that can be supplemented to use offline. For the availability of video content, the useful value of the YouTube channel was taken into account.

Our study clearly showed that it can improve the quality of education through the adaptation of active methods of traditional learning to distance learning. In general, the living and professional competence of entities involved in distance learning will be strengthened in the digital society. In addition, distance learning was considered as a single process, regardless of traditional training. Our study clearly showed that the adaptation of active methods of traditional learning to a distance one can improve the quality of education. The results of our research complement the previous works and recommended for use.

6. Conclusion

One of the main goals of the development of distance education around the world is to create conditions for learners (students, pupils, undergraduates) to study in any college or university curriculum. This will allow the learner to move from one country to another, to develop new promising projects in the context of mutual exchange of educational resources, armed with a unified approach to ideas. Therefore, the technical, software, information, methodological support of training is the core of the activation of distance learning. As a result, the fulfillment of these pedagogical conditions leads to the validity of the research hypothesis.

Communication between each lecturer and learner will be qualitative only if it is based on the principles of reliability, accessibility, openness, transparency and includes effective methods and

equipment. The lecturer of the university strengthens his own preparation for the organized use of traditional, distance, mixed teaching methods. To do this, the pedagogical conditions formulated as a result of the study are satisfied:

- It is necessary to pay special attention to the equipment of the subjects involved in the educational process with digital equipment and the convenience and accessibility of the software platform;
- It is necessary to update the subject information space, the curriculum, the syllabus on the subject results, the expected results, understandable to the student;
- Methodologically, taking into account the student's interest in the subject, psychological and social readiness, profile of professional activity, it is necessary to improve their professional skills by applying the acquired knowledge in practice;
- In order to have a digital culture, teachers must constantly improve their knowledge and be equipped with innovative educational technologies.

Activation of distance learning is constantly being improved. The results of the study showed a positive result in the introduction of active methods of distance learning in the educational process. In order to increase the digital competence of university lecturer, it is necessary to take measures to improve their skills. Methodological requirements for the development of content, information space, the choice of software learning environment, the organization of services to improve the technical and psychological readiness of learners were met. The pedagogical features of distance learning in higher education are not limited to the training of a professionally competent person in the digital state, it is aimed at becoming a qualified specialist of tomorrow.

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