

Project title: IRN №AP09260956 "Scientific and methodological foundations for the organization of the educational process in the conditions of distance learning at the Agricultural Research University".

Relevance: Significant changes are taking place in teaching activities also in connection with the use of new information technologies in the distance education system. If in traditional education the teacher spent most of his time explaining the material, now the teacher must:

- develop course content on a new technological basis;
- help the student navigate the extensive and varied educational information and find an educational path that is suitable for him;
- ensure active interaction of the student both with the teacher himself and with other students during the discussion of course issues.

Each of these main types of teaching activities is characterized by specific problems. Thus, the development of courses based on new technologies requires not only fluency in the academic subject and its content, but also special knowledge in the field of modern information technologies. Thus, during the educational process, special not only pedagogical, but also technological skills and experience in working with modern technical means are needed.

In this regard, we have developed scientific and methodological foundations for organizing the learning process at an agricultural research university using distance learning technologies. In our model, we have increased research skills, motivation of students and teachers. The best practices of foreign colleagues were also analyzed and effective distance learning tools were introduced into the educational process of universities (using the example of the Kazakh Agrotechnical Research University named after S. Seifullin).

Goal: The goal of the project is to form scientific and methodological foundations for organizing training using distance learning technologies at an agricultural research university.

Expected and achieved results:

for 2021: effective methods for organizing the educational process using distance learning technologies in agricultural universities have been identified. A literature review has been prepared, research has been conducted in the field of organizing the educational process using distance learning technologies in agricultural universities of the Republic of Kazakhstan. Scientific and methodological foundations for organizing the educational process using distance learning technologies at an agricultural research university have been developed (using the example of the Kazakh Agrotechnical University named after S. Seifullin).

- for 2022: A methodology for organizing the educational process using distance learning technologies has been developed. A conceptual model of organizing the educational process using distance learning technologies at an agricultural research university has been developed.

- for 2023: Scientific and methodological recommendations for the development of educational programs using distance learning technologies are presented.

To study the experience of neighboring countries, the project implementers visited the Russian State Agrarian University-MSCA named after K.A. Timiryazev and Michurin State Agrarian University, to the Istanbul Research University - Cerrahpaşa (İstanbul University-Cerrahpaşa) in Turkey, to the Agrarian University of Krakow (University of agriculture in Krakow), Krakow AGH University (Akademia Górniczo-Hutnicza im. S. Staszica w Krakowie) in Poland.

During the business trip, the experience of using distance educational technologies, teaching methods in the DOT was studied, the technological solutions and equipment used in the DOT were identified. Familiarized with the services and distance learning facilities of the scientific mission base. The features of organizing a distance learning system at an agricultural university have been studied.

Based on the results of the study, the following were published: in publications included in the international citation database Scopus - 2 articles, in publications recommended by the Committee for Control in Education and Science - 3 articles, in an international journal - one article, a monograph and 2 recommendations were published.

The composition of the research team:

Scientific supervisor - **Abdyrov Aitzhan Mukhamedzhanovich**, Doctor of Pedagogical Sciences, Candidate of Technical Sciences, Professor, Academician of APNK, First Deputy Chairman of the Board of NJSC «Kazakh Agrotechnical Research University named after. S.Seifullina».

Co-director – **Tashkenbayeva Zhuldyz Mukhtarovna** – PhD, Director of the Department of Social Issues, Kazakh Agrotechnical Research University named after. S.Seifullina.

Chief Researcher - **Gulzhan Klychovna Muratova** - Candidate of Physical and Mathematical Sciences, Acting Associate Professor of the Department of Computer Science of the Kazakh Agrotechnical Research University. S.Seifullina.

Researcher – **Koksegen Aliya Erishovna** – senior lecturer of the Department of Higher Mathematics of the Kazakh Agrotechnical Research University. S.Seifullina.

Researcher – **Laila Kudaibergenovna Smailova** – Master, senior lecturer of the Department of Higher Mathematics of the Kazakh Agrotechnical Research University named after. S.Seifullina.

Researcher – **Tazhibai Lazzat Kanalbaykyzy** – Master, Senior Lecturer, Department of Computer Science, Kazakh Agrotechnical Research University. S.Seifullina.

Researcher - **Aidie Ulanbekovich Aidarbekov** - doctoral student of the Department of Computer Science of the Kazakh Agrotechnical Research University. S.Seifullina.

Researcher – **Svetlana Vladimirovna Romanenko** – Candidate of Pedagogical Sciences, senior lecturer at the ATT Department of the Kazakh Agrotechnical Research University. S.Seifullina.

Researcher – **Aldabergenova Saule Salimzhanovna** – PhD, Head of the Department of Standardization, Metrology and Certification, Kazakh Agrotechnical Research University. S.Seifullina.

List of publications and patents published under this project: (with links to them):

1. Zhuldyz Taskenbayeva, Aitzhan Abdyrov, Gulzhan Muratova, Gulnar Kaltayeva, Aliya Koxegen, Laila Smailova. Scientific and methodological foundations for the organization of the educational process in the conditions of distance learning // World Journal on Educational Technology: Current Issues. – 2022, – 14(3). – P. 884-896. (Scopus CiteScore 2021 – 1,9. Percentile – 56) (DOI: <https://doi.org/10.18844/wjet.v14i3.7369>)

2 Zhuldyz Taskenbayeva, Aitzhan Abdyrov, Baurzhan Nurkeshov, Gulzhan Muratova, Aliya Koxegen, Laila Smailova. Effective ways of teaching in distance education // Cypriot Journal of Educational Sciences. – 2022. Vol. 17, Issue 10. – P. 3821-3833 (DOI: <https://doi.org/10.18844/cjes.v17i10.8252>)

3. G. K. Muratova, A. E. Koksegen, L. K. Tazhibay, L. K. Smailova, Zh. M. Tashkenbaeva. Technologies of distance learning in universities of the Republic of Kazakhstan // Bulletin of Toraigyrov University. – 2022. Pedagogical series No. 4. – P.79-90. (<https://doi.org/10.48081/YWJC7662>)

4 A.M. Abdyrov, G.K. Muratova, Zh.M. Tashkenbaeva, L.K. Tazhibay. Analysis of the educational process using distance technologies in higher educational institutions of agrarian profile // Pedagogy and psychology. – 2022. – No. 2 (51). pp. 247-257.

5 Aidarbekov, A., Murzabekova, G., Abdyrov, A., Tashkenbayeva, Z., Shalkar, A. Developing Educational Content for Distance Learning Purposes Using Mobile Technologies

and Optimized Filmmaking Models // Advances in Intelligent Systems, Computer Science and Digital Economics IV. CSDEIS 2022. Lecture Notes on Data Engineering and Communications Technologies. Springer. – 2023. – Vol. 158, pp. 964–973. (Scopus CiteScore 2021 – 0.9. Percentile – 37) (. https://doi.org/10.1007/978-3-031-24475-9_79)

6 Abdyrov A.M., Tashkenbaeva Zh.M. Recommendations for the development of priorities for innovative modernization of education in the Republic of Kazakhstan based on studying the experience of distance educational technologies in foreign countries. – 2023. Astana, Printing house KATIU named after. Seifullina. 76 p.

7 Abdyrov A.M., Tashkenbaeva Zh.M. Recommendations for the development of the main directions of the educational process organization system using distance learning technologies in agricultural universities. – 2023. Astana, Printing house KATIU named after. Seifullina. 66 p.

8 Abdyrov A.M., Tashkenbaeva Zh.M. Scientific and methodological foundations for organizing the educational process in distance learning conditions at an agricultural research university. Monograph, Astana, Printing house KATIU named after. Seifullina, 2023, 188 p.

9 Abdyrov A.M., Aldabergenova S.S., Ayazbaeva A.B., Akizhanova A.A., Aldabergenova A.S. The influence of reflection on the thought process of students during distance learning. Proceedings of the University. Karaganda Technical University named after Abylkas Saginov. No. 4, 2023. pp. 261-266. DOI 10.52209/1609-1825_2023_4_261

Information for potential users: The results of this project will influence the effective training of specialists in distance learning technologies at agricultural universities. The results of the project will allow universities to develop an effective system for organizing the educational process using distance learning technologies.

Additional information: Analytical scientific reports and articles, study guides, instructions and guidelines and practical organizations of distance technology can be used by teachers, undergraduates and doctoral students for their own research. The expected results of the Project correspond to the priorities of the Republic of Kazakhstan on the modernization of education in the republic.