ABSTRACT
Dissertation for the degree of Doctor of Philosophy (PhD) in the specialty "8D01101 Pedagogy and Psychology"
on the topic "Developing Students' Professional Abilities in the Context of Digitalization of the Educational Space"
by Aigul Seitovna Kurakbayeva

Relevance of the Study

Developing students' professional abilities in the context of digitalization of the educational space is of paramount importance due to the changes occurring in modern society, caused by the transformation of the economy and education. Digital technologies have become an integral part of human life and offer enormous potential to the higher education system through the introduction of digital tools – virtual and augmented reality, artificial intelligence, interactive platforms, distance learning technologies, online courses, and webinars – into the educational process. This will enable students to meet employer requirements in the digital economy and manage their educational and professional activities in the digital educational space.

The application and integration of the National Qualifications Framework of the Republic of Kazakhstan into the planning and content of the educational process facilitates professional training that ensures the relationship between learning and labor market needs, aimed at the accelerated acquisition of new or modified professional skills in students [1]. Modern professional training of students involves the creation of an educational space using new teaching technologies that facilitate the rapid adaptation of students to the changing needs of society in the context of the digital economy.

The educational space is characterized by integrity, organization, structure, content, and integration [2], reflecting the strategic direction of the professional training system at the national, regional, and global levels. In this study, we consider the concept of "educational space" as a condition for the development of students' professional abilities in the context of the digitalization of the university educational process.

In the context of digitalization, a unified global educational space for continuous education is being created at the global, national, and regional levels [3]. Given the interconnectedness of these three levels, countries with a highly developed economy are creating their own digital educational space with the goal of professional development of students who are competitive in the global labor market.

Digitalization of the economy and education are key priorities of the state policy of the Republic of Kazakhstan. Towards the digitalization of education in Kazakhstan, reforms have been carried out, including the implementation of state programs and national projects on the digital infrastructure of the education system, data mining, digital education, and public education, as well as the introduction of modern innovations, e-learning platforms, and learning communities that promote the development of open education.

The main state regulatory documents implementing strategic planning for the digitalization of education include: the Law of the Republic of Kazakhstan dated July 27, 2007, No. 319-III "On Education" [1], the Law of the Republic of Kazakhstan on Informatization dated November 24, 2015, No. 418-V "On Informatization" [4], and the Concept for the Development of Higher Education and Science in the Republic of Kazakhstan for 2023–2029 [5].

The primary goal of the higher education system is to train highly qualified and competitive specialists who are fluent in related integrated fields of professional activity and strive for professional growth. According to the Atlas of New Professions and Competencies of the Republic of Kazakhstan, due to the rapid pace of digitalization of the economy and, consequently, education, the shelf life of existing skills and competencies is shortening, which puts pressure on the acquisition of new or improvement of previously acquired professional skills [6]. The problem of professional training of students capable of independently mastering and using digital technologies in their professional activities makes the topic of our research relevant, since the development and adoption of digital technologies in the higher education system is one of the priority tasks for the Republic of

Kazakhstan to become one of the leading countries in the world in terms of education quality, as reflected in the above-mentioned state regulatory and legal documents.

A pressing issue today is the professional training of students in demand in the modern labor market. Digitalization is “the process underlying all processes” [7], transforming production, stimulating innovation, and increasing economic growth, thereby expanding its impact on the education sector. The integration of digital technologies into educational practices has facilitated a reassessment of students’ professional abilities and competencies, challenging traditional methods and approaches and promoting innovative learning theories that meet the demands of the 21st-century workforce.

The purpose of the present dissertation is to theoretically substantiate and experimentally test the effectiveness of a model for developing students’ professional abilities in the context of digitalization of the educational space. **The object of the study** is the pedagogical process.

The subject of the study is the development of students' professional abilities in the context of digitalization of the educational space. **The research hypothesis** is that if, during the professional training of students, a model for developing students' professional abilities is implemented that is aimed at developing general mental abilities, creativity, motivation, and professional orientation, then an educational process is designed that enables the development of students' professional abilities in the context of digitalization of the university's educational space and the management of educational and professional activities using digital technologies, and, as a result, meets the needs of the economy and society for digital education.

Research Objectives are as follows:

1. To conduct an analytical review of the development and strategic planning of digitalization of education in the Republic of Kazakhstan;
2. To study the theoretical foundations of constructing an educational space using digital technologies and the theory of digital didactics;
3. To reveal the essence of the concept of "professional abilities" and derive the structure and components of professional abilities;
4. Identify the methods, technologies, tools, and forms necessary for the digital educational process;
5. Develop a model for developing students' professional abilities in a digitalized educational environment.
6. Test the effectiveness of implementing the model for developing students’ professional abilities in a digitalized educational environment through pilot studies.

The guiding idea is that students’ professional abilities develop in an educational environment built with digital technologies based on the principles and approaches of digital didactics theory.

The theoretical and methodological basis of the study was formed by the following theoretical perspectives:

- the theory of activity-based learning (V. I. Blinov, A. Yu. Uvarov, G. K. Nurgalieva, E. V. Artykbaeva);
- the theory of contextual-environmental learning (A. A. Verbitsky, S. F. Sergeev, I. V. Robert); Theory of Problem-Based Learning (M. I. Makhmutov, A. M. Matyushkin, E. V. Kovalevskaya);
- Theory of Cultural-Anthropological Learning (I. Ya. Lerner, E. A. Klimov, D. M. Dzhusubalieva);
- Theory of Competency-Based Learning (A. V. Khutorskiy, A. K. Mynbayeva, Sh. T. Taubayeva, A. A. Bulatbayeva).

Research Methods:

Analytical review of state and regulatory documents on the development and strategic planning of digitalization of education in the Republic of Kazakhstan; analysis and synthesis of international

best practices in developing digitalization of the education system in advanced countries; content analysis of scholarly publications on the research topic; modeling method; questionnaire method; observation method; experimental work as well as the use of SPSS in mathematical statistics for processing experimental data.

Research Site: Toraighyrov University (Pavlodar, Kazakhstan).

The Scientific Novelty of the Study:

- International and domestic experience in the development and strategic planning of digitalization in education is studied and summarized;
- Approaches and principles for constructing an "educational space" using digital technologies are examined;
- The structure and components of students' professional abilities are presented;
- A model for developing students' professional abilities is developed and implemented, including methods, technologies, tools, and forms of digital learning;
- A system of criteria, indicators, and levels of development of students' professional abilities is presented and tested;
- A MOOC in "Psychology", an electronic textbook in "Psychology" and an electronic special course "Managing the Learning Process Using DET" are developed and implemented. The theoretical significance of the study lies in the development of students' professional abilities through the implementation of a model aimed at developing general mental abilities, creativity, motivation, and professional focus. This model enables the development of students' professional abilities in the context of digitalization of the educational space and the management of educational and professional activities using digital technologies.

Practical Significance of the Doctoral Study: The theoretical propositions, conclusions, and scientific and methodological recommendations can be used in the professional training of students to develop their professional abilities in the context of digitalization of the educational space.

Thesis-based Propositions Submitted for Defense:

1. An analytical review of the development and strategic planning of digitalization of education in the Republic of Kazakhstan identified and substantiated the stages of digitalization development in the Republic of Kazakhstan;
2. Theoretical foundations for constructing an educational space using digital technologies and the theory of digital didactics;
3. The concept of "professional abilities" is defined as a system of individual psychological characteristics, including components of cognitive abilities (general mental abilities) and non-cognitive abilities (individual-personal abilities), which enable the acquisition of knowledge, skills, and competencies necessary for managing educational and professional activities in the context of digitalization of the educational space. The structure and components of professional abilities are presented, ensuring students' readiness to solve complex problems in educational and professional activities in the context of digitalization of the educational space;
4. Methods, technologies, tools, and forms necessary in the digital educational process;
5. A model for developing students' professional abilities in the context of digitalization of the educational space, including target, content-technological, and performance-based blocks, will enable the implementation of the principles and approaches of digital didactics theory and the management of students' educational and professional activities;
6. Results of the pilot study to test a model for developing students' professional abilities in the
7. context of digitalization of the educational space, demonstrated by the positive dynamics of the level of development of professional abilities of students in the "Translation Studies", "Foreign Philology" and "Russian Philology" programs during the 2022-2023 academic year and the 2023-2024 academic year.

The Validity and Reliability of the Research Results are confirmed by a study of the methodological and theoretical views of scholars, theoretical and empirical research methods relevant to the objectives of the study; the results obtained during the pilot study, processed using

mathematical statistics; and confirmation of the proposed research hypothesis by its results. Testing and implementation of the research results

The research results were presented at international scientific conferences at Toraighyrov University, Pavlodar in 2020 [54], 2022 [55], 2023, and 2025; at the Plekhanov Russian University of Economics, Moscow in 2023 [56]; at scientific and methodological seminars of the Psychology Department of Gumilyov Eurasian National University, and the Personal Development and Education Department of Toraighyrov University; through the publication of articles in journals recommended by the Kazakh National Research University of Higher Education, the Ministry of Higher Education of the Republic of Kazakhstan, and in scientific journals such as the Bulletin of Toraighyrov University in 2021 [57]; the Bulletin of the Al-Farabi Kazakh National University in 2022 [58]; "Bulletin of the Kazakh National University named after Al-Farabi" in 2023 [59]; publication of an article in a scientific journal included in the Scopus / Web of Science information databases in 2025 [60].

The structure of the dissertation consists of an introduction, three sections, a conclusion, a list of references, and appendices.

The introduction outlines the relevance of the dissertation, an overview of the research conducted during the research, the research problem, the purpose, objectives, object, subject, scientific hypothesis of the research, the guiding idea of the research, the methodological and theoretical foundations, sources and methods of research. It also presents the scientific novelty, theoretical and practical significance of the research, as well as the main provisions submitted for defense, the validity and reliability of the research results, information on the testing and implementation of the research results.

The first section, "Theoretical Foundations of Digitalization of the Educational Space" examines strategic regulatory documents on the digitalization of education in Kazakhstan, provides the author's definitions of the concepts of "digitalization", "educational space" and "professional abilities". The stages of transformation of digital didactics are highlighted, and the principles and approaches of the theory of digital didactics are defined.

The second section, "The System for Developing Professional Abilities of Students in the Context of Digital Didactics" derives the structure and components of professional abilities based on a qualitative analysis of the content of scholarly publications in Scopus and Web of Science journals. A map of students' professional abilities was developed; the essence of the model for developing students' professional abilities was revealed, and criteria, indicators, and levels of development of students' professional abilities were presented.

The third section, "Experimental Work on Developing Students' Professional Abilities in the Digital Learning Process", presents the content and results of the experimental work, as well as the stages of development and implementation of the model for developing students' professional abilities in the educational process for the 2022-2023 academic year and the 2023-2024 academic year.

The conclusion contains the research results, findings, and scientific and methodological recommendations.

The appendices contain the documents and practical materials of the present doctoral study.