

SUMMARY

of Aisulu Zhomartova's thesis research «Formation of future teachers' readiness for inclusive education in the conditions of the computerized environment» submitted in candidacy for a Doctor of Philosophy (PhD) degree in 6D010300 – Pedagogics and Psychology

The introduction of inclusive education in our country ensures that education is accessible to everyone, regardless of their state of health and social status. The Law of the Republic of Kazakhstan "On Education" defines inclusive education as follows: "inclusive education is a process that provides equal access to education for all students, taking into account special educational needs and individual opportunities". The introduction of inclusive education is also due to the fact that there are more people with special educational needs in our country. The Constitution of the Republic of Kazakhstan guarantees equal rights of all citizens to education. In this regard, the following tasks were set in the State Program for the Development of Education of the Republic of Kazakhstan for 2011-2020: improving inclusive education at school, as well as its development, which were continued in the State Strategic Plan for the Development of Education and Science of the Republic of Kazakhstan, designed for 2020-2025.

Personnel training is supplemented with new knowledge in solving this problem in accordance with new requirements. In Kazakh science, the problem was considered by: N.D. Khmel, N.N.Khan, N.E.Pfeifer, M.N. Sarybekov, S.T. Kargin, E.O. Zhumatayeva, T.K. Boleev, E.I. Burdina, K.Zh. Azhibekov and others.

Studying the problem of readiness, we relied on the works of scientists who considered and studied "**readiness**" from different positions. When studying the problem of readiness, relied on works of scientists such as B.G. Ananyev, A.N. Leontiev, D.N. Uznadze, M.I. Dyachenko, L.A. Kandybovich, A.A. Derkach, N.V. Kuznetsov and others who considered readiness as **a mental state and a problem of acmeology**.

The psychological component of readiness for the teaching profession was reflected in the works of Kazakh scientists L.K. Komekbaeva, Z.B. Madaliev, G.Zh. Lekerova, B.D. Baytukbayeva, A.Zh. Ayapberkenova and others; Russian scientists: A.S.Tarnovskaya, E.A. Pyrieva, L.M. Gur and others.

The problem of informatization of education in general is actively studied by foreign and Kazakhstani scientists such as A.T. Chaklikova, O.Z. Imangozhina, G.N. Daumov, D.I. Abdraimov, B.J. Sharipov, R.A. Ilyasova, S.S. Nabidollina, D.B. Abykenova and others.

When highlighting the problem of deontological readiness, the works of Kazakhstani and foreign scientists were studied: K.M. Kertayeva, E.N. Zhumankulova, B.D. Kairbekova, L.V. Mardakhaev.

The formation of readiness for pedagogical activity in general in Kazakh science was reflected in the works of N.A. Neustroeva, M.G. Kasymova, R.Z. Akhmetova and others.

The problem of inclusive education and the preparation of teachers inclusive education was highlighted in Kazakhstan by scientists R.A. Suleimenova, Z.A. Movkebayeva, I.A. Oralkanova, A.K. Oralbekova, S.D. Aubakirova, A.R. Rymkhanova; foreign scientists D. Mitchell, I.N. Hafizullina, Yu.V. Shumilovskaya, S.V. Alekhina, O.S. Kuzmina and etc.

The problem of applying the Universal Design for Learning (UDL) guidelines, aimed at maximizing the use of available digital and other opportunities to ensure equal access to learning, is being actively studied in the global educational space. The problem of applying UDL principles in teaching has been considered by foreign scientists such as Rose D., Meyer A., Dalton E.M., Mckenzie J.A., Kahonde C., Kavita Rao, Grace Meo, Emilia Smekhovskaya-Petrovskaya, Marlena Kiliana, Kathy Kavanagh Webb, Jeanne Hoover, Dong-Wook Han, Min-Chae Kang and others. The UDL principles provide use of information and communication technologies (ICT) in the educational process.

The problem of preparing teachers for inclusive education abroad remains still relevant. Our work reflects the results of research by foreign scientists: Panayiotis Angelides, Tasoula Stylianou, Paul Gibbs, Sunchitsa Matsura Milovanovich, Rita Minello, Jennifer Kurth, Jean Ann Foley and others.

A study from different perspectives on the problem of formation of future teachers' readiness for inclusive education in a computerized environment made it possible to conclude that in the works of scientists the main emphasis is on all possible ways of integrating children with disabilities, while the general pedagogical process, where there are other children, is not particularly considered, while there is a great need to take into account current trends in society.

Drawing conclusions from the above information, the contradictions between the increasing requirements for the teacher of inclusive education at the present stage of its development and the insufficient use of the possibilities of the computerized environment in the educational process are revealed, between the need to integrate children with special educational needs (SEN) into the general educational process and the insufficient development of the organization of the general pedagogical process with all together, between the need to form the future teachers readiness for inclusive education in a computerized environment and the need to substantiate the theoretical and methodological basis of preparation for the future profession. The resolution of these contradictions allowed us to determine the research problem, which consists in finding new approaches in preparing future teachers for inclusive education in a computerized environment.

The relevance of our research is due to the need to study the problem of the future teacher's readiness for inclusive education in a computerized environment, as well as to identify and form readiness for pedagogical activity, which will allow to successfully integrating into the educational process at school. In this regard, the topic of our research is: "Formation of future teachers' readiness for inclusive education in the conditions of the computerized environment".

The object of research is inclusive education in a computerized environment.

The subject of the study is the formation of future teachers' readiness for inclusive education in a computerized environment.

The purpose of the study is to develop and implement a model for the formation of future teachers' readiness for inclusive education in a computerized environment.

Taking into account modern realities in the field of education, a **hypothesis** was formulated: if we develop a model for the formation of future teachers' readiness for inclusive education in an computerized environment and implement it into practice, this will contribute to the formation of this readiness, since the necessary components of the desired readiness will be provided in the training of future teachers, ensuring effective interaction in preparation for future professional activity.

To achieve the purpose of the study, the following **tasks** were formulated:

- 1) analyze the development of inclusive education abroad and in Kazakhstan;
- 2) define the concept of a computerized environment and identify the specifics of the organization of inclusive education in these conditions;
- 3) analyze the foreign experience of teachers training for inclusive education;
- 4) reveal the essence of the concept of "future teachers' readiness for inclusive education in a computerized environment";
- 5) develop a model for the formation of future teachers' readiness for inclusive education in a computerized environment;
- 6) describe the content of the preparation of future teachers for inclusive education in a computerized environment;
- 7) conduct an experimental study to identify the effectiveness of the proposed model for the formation of future teachers' readiness for inclusive education in a computerized environment.

The leading idea of the study is that the formations of future teachers' readiness for inclusive education in a computerized environment should correspond to current trends in society and education development and should take into account the diversity of needs for educational services in a computerized environment.

The theoretical and methodological basis of the study was made up of:

- theoretical aspects of inclusive education (R. A. Suleimenova, Z. A. Movkebayeva, I. A. Oralkanova A. K. Oralbekova S. D. Aubakirova, A. R. Rimkhanova, D. Mitchell, S. V. Alekhina, Dalton, E. M., Mckenzie, J. A., Kahonde, C., etc.);
- inclusive education in modern conditions of society development (A. T. Chalikova, G. N. Daumov, B. Zh. Sharipov, D. B. Abykenova and others);
- future teachers' readiness for inclusive education (I.N. Khafizullina, Yu.V. Shumilovskaya, E.G. Samartseva, S.A. Cherkasova, I.A. Oralkanova, O.S. Kuzmina, A.K. Oralbekova, S.D. Aubakirova, I.V. Wozniak, T.N. Chernomyrdina, A.R. Rymkhanova and others);
- preparation of teachers for inclusive education abroad (Panayiotis Angelides, Tasoula Stylianou, Paul Gibbs, Sunchitsa Matsura Milovanovich, Rita Minello, Jennifer Kurth, Jean Ann Foley, Boitumelo Mangope, Sourav Mukhopadhyay, Anna Zamkowska, Alvyra Galkienė, Kim Beasy, Jeana Kriewaldt, Helen Trevethan, Alan Morgan, Bronwen Cowie and others).

The methods of theoretical research were methods of studying literature on the problem of preparing teachers for work, the method of theoretical analysis of the studied materials was used, citation, bibliography, and notes taking were used in the theoretical material analysis.

In direct contact with the subjects methods of empirical research were widely used: observation, conversation, questioning, analysis of products of activity, pedagogical testing.

When analyzing the results of the pedagogical experiment, methods of mathematical calculation of elementary statistics, mathematical identification of relationships (Spearman correlation) were used, the Student's t-criterion was used to determine the significance of the identified changes, the image of pedagogical phenomena in quantitative indicators was used using the 23 version of IBM SPSS program.

The theoretical significance of our research lies in the theoretical substantiation of future teachers' readiness for inclusive education in a computerized environment.

The practical significance of the research lies in the developed course on preparing future teachers for inclusive education in a computerized environment and diagnostic tools for determining readiness for the upcoming professional activity. When preparing future teachers on the basis of results of the dissertation research a mandatory "Universal design for learning" course was developed and introduced into the educational process. An electronic educational-methodological complex of the course (EEMCC) was created, where video lectures posted on the YouTube channel were provided. The developed and released textbook "Universal design for teaching or teaching methods in inclusive education" can be used by practicing teachers in the inclusive pedagogical process.

The following provisions are submitted for the defense:

- analysis of the state and implementation of inclusive education abroad and in the Republic of Kazakhstan;

- the concept of a computerized environment is a specially organized environment representing a set of methods and techniques based on the use of a computer and telecommunications facilities aimed exclusively at solving the problems of education and personal development of a child;

- analysis of foreign experience in training teachers for inclusive education;

- the concept of future teachers readiness for inclusive education in a computerized environment is formed professional competencies expressed in the totality of knowledge about teaching children, including with SEN and the ability to organize the educational process with them in a computerized environment, based on professional duty and consisting of strongly interconnected components: deontological, gnostic and procedural;

- a model of formation of future teachers' readiness for inclusive education in a computerized environment, including components of readiness: deontological, gnostic, procedural, diagnostic tools, content, methods, forms and means of its formation;

- the content of preparing future teachers for inclusive education in a computerized environment through the "Universal design for learning" course;
- the results of experimental work on the formation of the future teachers readiness for inclusive education in a computerized environment confirming the effectiveness of the proposed model.

Approbation and implementation of research results were carried out during discussions at scientific, scientific and practical conferences of the international level - 3 articles, journals recommended by the CCSES - 3 articles, in a journal included in the Scopus database - 1 article.

The structure and scope of the dissertation. The dissertation consists of an introduction, three sections, a conclusion, a list of sources used, and appendices. There are 26 figures and 48 tables. The list of sources used includes 196 sources.