

Dual education conditions for pedagogical bases of specialists inclusive training

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Abstract

One of the key problems of training a new type of specialist is the problem of forming appropriate inclusive competencies among students of pedagogical colleges. The article deals with the scientific and pedagogical bases of inclusive training of future specialists in the conditions of dual education. The work is based on the idea that the introduction of elements of the dual system of teaching students of pedagogical specialties will contribute to the qualitative development of student's general and inclusive training in the specialty, as well as the acquisition of practical skills in the relevant field directly in the educational organization. The study collected data through an experiment that included 128 students and 10 representatives of employers. Data were analyzed using percentages and a pie chart. Results proved that the dual training system as a product of social partnership is an effective and flexible mechanism for training highly qualified specialists who can solve complex production tasks.

Keywords: Dual education; inclusive training; pedagogical.

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1. Introduction

Modern education in the Republic of Kazakhstan is associated with the pace of socio-economic transformations in the country and entry into the international educational space, strengthening the role of inclusive training of students in the development of their chosen specialty during their studies at the University (Makoelle & Somerton, 2021). In the Republic of Kazakhstan, education is recognized as one of the long-term development priorities, the basis of the spiritual, social, economic, cultural progress of the state. The reform of the Kazakhstan education system is carried out on democratic principles, considering the achievements of world experience and national traditions. The main goal of the transformation is the implementation of a humanistic paradigm aimed at developing a student's personality with its inherent abilities, interests, individual characteristics, giving the educational process a definite positive personal sense. In the Republic of Kazakhstan, the educational policy of the state is implemented through the educational standard, which is focused on emphasizing the following as much as possible: bringing national education to the world level based on the principles of humanization, democratization, integration (Orazakynkyzy & Mukhametkalieva, 2020) .

Today, dual training has been of great importance in the development of inclusive education. In this regard, the address of the First President of the state N. Nazarbayev to the people of Kazakhstan "Twenty steps to a society of Universal Labor" suggests a new program of social modernization of the country based on specific industrial labor relations (Kirdasinova, Muftigaliyeva & Kenjin, 2016) . This implies that the future specialist becomes not only an inclusive but also a relevant person for the issues of mastering the value orientations of this profession, awareness of its goals, bringing people and inclusive groups closer together, entering into their role structure, accepting all components of the upcoming inclusive activity: its tasks, subject, methods, means of results and situations within this specialty. The world recognizes the advantages of the dual training system, which we consider in the context of theoretical training in educational institutions and practical training in the workplace.

The employer needs specialists who can practically solve the life and inclusive problems they face. And this also depends on the competencies obtained within the walls of the educational institution, i.e. new high-quality education based on knowledge, experience, and values that are acquired in the process of learning. It was the search for new forms and methods of organizing the educational process that allow for effective training of qualified specialists that led to the transition to a dual system of education. Dual training is understood as an innovative form of inclusive training organization that involves coordinated interaction of educational and industrial spheres in the training of personnel of a certain profile and skill level following the needs of a particular enterprise, built on the unity of three methodological bases: axiological (parity of humanistic and technical-technological values and goals); ontological (competence approach); technological (organization of the process of development of inclusive activity, social and inclusive relations) (Orazakynkyzy & Mukhametkalieva, 2020).

The advantage of dual education as a basis for practice-oriented training is the interest of employers as consumers of future employees. Educational institutions that attract highly qualified employees of enterprises to the educational process, provide opportunities for using modern equipment in real production in the educational process, and the requirements of employers for future dual training specialists are considered. The dual system corrects the gap between theory and practice, creates a high motivation for students to get an education, orients the University to a qualitatively new level of training of future specialists. In the current conditions, the requirements for inclusive training in the conditions of dual education with a high level of training of future specialists for the upcoming activities are updated (Elmira et al., 2018).

The relevance of this statement became obvious from the analysis of the works of scientists in the field of pedagogical Sciences. Psychological and pedagogical aspects of determining the purpose, content, forms, and methods of inclusive education were studied in the works of foreign scientists A.

A. Verbitsky, B. S. Gershunsky, V. A. Ermolenko, G. I. Ibragimov, V. S. Lednev, M. I. Makhmutov, etc. The research was conducted on the implementation of the dual training system and implementation issues (K. Zh. Buzaubakova, S. A. Uzakbayeva, S. A. Zholdasbekova, Zh. o. Nurzhanbayeva, P. N. Baltash, U. M. Abdigapbarova, etc.) in the training of teachers in the Republic of Kazakhstan (Udalova, 2011).

From a psychological and pedagogical point of view, we concluded that the issue of graduates' ability to work in new conditions and respond to new requirements has not been studied.

Thus, there are contradictions between:

- the objective need of society to prepare inclusively trained specialists for the conditions of dual education and the actual state of development of this aspect of the problem in inclusive pedagogy;

- the need for inclusive adaptation of future specialists to the conditions of dual education and the protracted nature of its course due to the lack of appropriate scientific and methodological support for the adaptation process;

- potential opportunities of the educational process in the joint interaction of the University and the enterprise for the inclusive training of future specialists for the conditions of dual education and the lack of effective ways to use them;

- the claims of the adaptor in inclusive self-realization, the requirements of inclusive activity, and the lack of conditions necessary for successful inclusive training in dual education (Zholdasbekova et al., 2016).

1.1. Purpose of study

Based on the revealed contradictions, the research problem is formulated: what should be the system of training future teachers of dual education, so that it meets the needs of society in preparing inclusively trained specialists for the conditions of dual education, and what are the ways of its organization? The relevance of the problem, its theoretical and practical significance, as well as its lack of development in the theory and practice of inclusive pedagogy were the basis for determining the research topic (Anderson, 2001). The article aimed to address the scientific and pedagogical bases of inclusive training of future specialists in the conditions of dual education.

2. Materials and Methods

2.1. Data collection

To determine the initial level of inclusive training of students, an ascertaining experiment was conducted. And data was collected through observation.

2.2. Participants

Representativeness of quantitative and qualitative analysis and processing of the results of the obtained data was with the direct participation of the research candidate in the implementation, testing, and implementation of research results in educational practice with the coverage of 128 students and 10 representatives of employers.

2.3. Procedure

The first stage (2018) is search and theoretical (preparatory). Previous research materials are summarized and analyzed. The problem area of research is specified. The logical structure and initial state of the research are revealed, and the problems of inclusive training of future specialists in dual training based on the study of scientific literature and educational experience are analyzed. The topic is justified, and the scientific apparatus is defined.

The second stage (2019) is experimental (main). In the system of dual training, the theoretical and methodological guidelines of the problem of inclusive training of future specialists are clarified.

The program of forming experiments is developed. A practice-oriented model of inclusive training of future specialists in dual training is constructed, the results of theoretical research are interpreted into practical activities, conditions are developed, and methods are proposed to ensure the effectiveness of the model implementation.

The third stage (2020) is the final generalizing (analytical) analysis, scientific and theoretical generalization, and interpretation of the data obtained during the experiment. It encompasses the formation of the main conclusions and conceptual provisions of the study, development of recommendations, implementation of research results in the educational practice of higher education institutions.

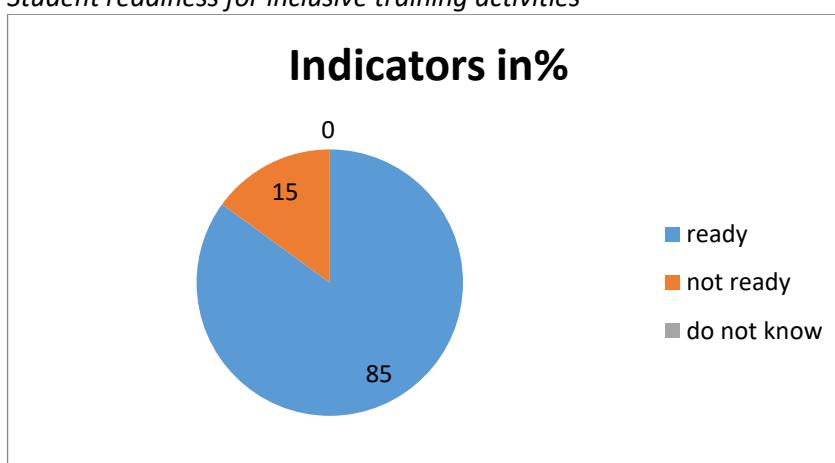
The study developed and implemented in practice, the educational and methodological support of the educational process, as well as the program of the seminar "Inclusive education: problems, experience implementation, and prospects," in the framework of the Republican scientific and pedagogical table, "Creative youth: the path to an intellectual power" and the model "4K - creativity, critical thinking, communication skills, ability to work in a team" for teachers of higher educational institutions and employees of enterprises-employers and the program of the elective course "Professional training of personality with disabilities" for bachelors. The methodology having been used in this research work and technology for its implementation was issued as a teaching aid manual "Teaching methods in a dual training system".

3. Results

When analyzing the results of the survey on the relationship to IT activities, experience with general and inclusive activities, more than half of the students in the experimental group (from 70 to 100%) had certain difficulties in working with inclusive information. In addition, from 50 to 70% of respondents had trouble in the process of communication when choosing the appropriate means of communication. However, it should be noted that most of the students that were ready to perform tasks of a problem and creative nature, had some experience in working on IT.

The results of the survey showed the willingness of students of the experimental group to work in ITA (inclusive training activity), their desire and confidence that this activity will improve their knowledge of IS (inclusive skills), will contribute to mastering the means of communication and will help further in their inclusive activities (Figure 1).

Figure 1
Student readiness for inclusive training activities



Each of the stages of the implementation of IT activities has its purpose in the formation of inclusive competence. The first stage contributes to the formation of goal-setting skills, develops the

ability to plan their activities, systematize the knowledge of IS, and skills to search for information in foreign sources.

The second stage not only contributes to the development of sociolinguistic competencies, but also allows you to develop skills in such operations as analysis, synthesis, and classification. In addition, in the discussion of the interim results of the assignment, students learn the art of discussion, expression, denial, and disagreement or agreement with the interlocutor's opinion, thus building a strategy of communicative behavior when discussing inclusive oriented topics.

The third stage contributes to the optimization of the educational and cognitive process since it involves the adjustment by students of their activities in carrying out a design task, considering additional issues that have arisen during the discussion of intermediate results of the work. This stage is also practical, since it forms certain skills, reinforces the skills of mastering PS at the level of formulating one's thoughts, fluency in the material studied, and the ability to enter into discussion and defend one's point of view.

The fourth stage activates the mechanisms of self-control, realizes the ability to implement self-is analysis, adequate assessment of the work of communication partners. At this stage of experiential learning, basic measurements are carried out based on the teacher's observation of the learning process of intercultural inclusive communication, according to the descriptors presented in the developed learning model.

After the completion of the ITA of students, a final section of experimental training was conducted. Comparison of the results of this slice with the slice at the initial stage of experiential learning revealed quantitative and qualitative changes in the level of proficiency in inclusive skills among students and, thus, helped to evaluate the effectiveness of the proposed methodology. For the final slice, we used similar input tests for the possession of the mental IS and for the possession of communication tools appropriate to the context of the situation. Indicators of the level of formation of inclusive competence in the course of experimental learning are consecrated in Table 1.

Table 1
Indicators of the level of formation of inclusive skills of students (in%)

Indicators	Stages of the experiment	Levels					
		Low EG	KG	Average EG	KG	High EG	KG
1) Completeness of use of inclusive terms	Start	35,9	45,8	49,6	40,5	15,3	14,1
	the end	6,5	44,2	63,1	40,1	30,3	15,3
2) Accuracy of achieving the communicative goal	Start	20,8	36,8	63,7	54,7	15,7	9,6
	the end			the end	the end	the end	the end
3) The amount of recoverable information in the process with the materials of the PTA	Start	15,5	18,7	67,4	68,2	17,1	13,4
	the end	3,5	19,6	68,5	67,6	28,5	13,3
4) Student activity in the work on PT	Start	11,3	12,6	63,3	66,7	25,7	21,8
	the end	-	14,3	45,8	67,5	54,9	18,9

From the results presented in table 1, it can be concluded that the level of formation of the inclusive competence of students of experimental groups has increased significantly. So, for example, if at the beginning of the experimental work a low level in the achievements in the EG showed 20.8%, and in the CG 28.9%, then at the end of the experiment there were practically no students with a low level in the EG (only 4.1%) while in the CG there was practically no change:

The beginning –28.2%, the end –28.9%.

Given the above results, PTA was carried out systematically. Following them, students first learned how to work independently, and after that, they acquired the necessary knowledge, skills, and abilities when working on project tasks. At the same time, they not only carried out in different types (depending on the stage of work) but also received all the necessary information for organizing such work in their inclusive activities.

4. Discussion

Following the results of observations in the implementation of inclusive training, students' activity increased in terms of finding the necessary information, the ability to analyze the data obtained, put forward a research hypothesis, process results, and draw conclusions. The growth of correctly shaped expanded statements according to the type of the communicative task, situational analysis, understanding the task of the partner, and achieving a communicative goal in the process of communication was also noted. The positive dynamics of students' proficiency in inclusive approach has been revealed, which generally indicates the success of the formation of inclusive competence.

Thus, because of observing the participation of students in the implementation of PT, it can be argued that students are interested in such activities, which reveal to them the possibility of using these skills in their inclusive implementation (Scaradozzi et al., 2019). In the course of working on the themes of projects and discussion of the results obtained, students learned to perceive and build communication, vary language statements in accordance with the communicative task, and achieve the goal of communication.

Theoretical principles, insights, methodological and diagnostic materials, and recommendations resulting from the study can be used in the process of dual education in the training of bachelors in specialty "vocational training", "preschool training and education, and "art and drawing" in the system of technical and vocational education and training workers of higher educational institutions (Anderson, Ryan & Shapiro, 2013). It is provided with a methodological sequence of initial theoretical positions that meets modern requirements and trends in the development of inclusive pedagogical science and practice; Compliance of the complex of research methods with the stages of inclusive training of future specialists in the conditions of dual training (Charband & Navimipour, 2018).

5. Conclusion.

One can start the educational process of dual training from the moment of graduation (applicant). It is important when education begins not with the search for an educational institution where you can study a particular specialty, but with the search for an enterprise that will take applicants for dual training. Applicants are required to submit their school certificates and pass an interview where the employer will assess their suitability to study a particular profession. A contract is concluded between the student and the employer, and the student receives a salary from the employer, since part of the time he works at the enterprise. This system allows you not only to acquire theoretical knowledge but also specific practical experience for further work. After receiving higher education, students usually remain working at the enterprise. This form of education is a great opportunity for employers to train specialists needed by the company, and for students – to get not only theoretical but also practical knowledge.

Today, it is still difficult to talk about an ideal approach to dual education in our inclusive educational organizations. But the desire to enter the dual system of training bears fruit: employers do not refuse to practice students, take an active part in the preparation of inclusive educational programs, and are interested in carrying out a qualification exam based on the criteria for evaluating the quality of specialist training compiled by representatives of the enterprise/organization.

Coordination of mutual actions is responsible for the content part of students' training. The inclusive standard plays an important role in determining the criteria for qualification levels and characteristics of training of workers. Teachers, student representatives, and employers review the content of training programs. It is important to note that the content concept of the dual training system is based on strengthening the student's practice-oriented activities on production sites, which contributes to the acquisition of certain inclusive competencies at the early stages of training .

In addition, the dual training system as a product of social partnership is an effective and flexible mechanism for training highly qualified specialists who are able to solve complex production tasks and quickly adapt to constantly changing conditions.

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