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## The importance of professional training of future teachers on the basis of dual training (experience of Germany and Kazakhstan)

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**Abstract.** The article discusses the three-step problem of professional training of future teachers in the dual education system in Germany. A comparative analysis of the system of professional training of future teachers in the country will also be carried out. Based on this, the models of duality in the German system of training future teachers and its features are determined. The situation with the introduction of elements of dual training in the vocational education system of Kazakhstan will be described. Based on the analysis of the duality model in the system of training future teachers in Germany, scientific and methodological recommendations on the introduction of elements of dual training in the process of higher pedagogical education in Kazakhstan have been developed.

In the course of the study, we analyzed the process of professional training of future teachers in Germany. The first feature is that, based on its regulatory documents, professional training of future teachers is carried out not by specialties, but by Types. For example, the problem of training teachers of Type 6 was shown.

A comparative analysis of traditional and dual training in Germany and the Republic of Kazakhstan was also conducted, as well as data on the introduction of elements of dual training aimed at changing the ideological and functional-didactic structure of the educational process in higher educational institutions were studied. Thus, it made it possible to draw conclusions by identifying the elements of dual training, which are reflected in the professional training of future teachers in Germany and Kazakhstan.

**Keywords:** dual training, future teachers, university professional-practice, professional training, school, practice, student, teachers, program, Kazakhstan, Germany, curriculum, education.

## **Introduction**

There are quite a few scientists in the Republic who studied the education systems of Kazakhstan and Germany in comparative terms. Among them are the famous domestic scientists A.K. Kusainov, K.S. Musin, G.K. Nurgalieva, B.B. Iskakov, A.A. Zhaitapova and others. A.K. Kusainov is one of the founders of comparative pedagogy. He defined the methodology in the comparative study of the two countries' educational systems, defined scientific principles, substantiated research methods, and in short, developed a theoretical system. In the course of our research, the methodological principles and methods of comparative research proposed by A.K. Kusainov were taken as a basis.

Professor A.K. Kusainov, based on a comparative study of the state of the secondary education system in Germany and Kazakhstan, highlights the main factors contributing to improving the quality of school education:

- compliance of the educational standard with international requirements;
- the status of teaching staff and the level of their professional competence;
- clarity in assessing the quality of Education;
- the effectiveness of spiritual and moral education of the younger generation;
- the effectiveness of the Education Management System [1, p. 227].

The problem of training future teachers in Germany is also considered in the study of B.B. Iskakov. He said that "the majority of primary and basic school teachers are currently trained by the Universities of Hamburg and Hesse, as well as in pedagogical schools in other higher education institutions. The duration of training is about three years. The program includes: study of academic disciplines and methods of teaching them; self-taught lessons, subjects (German, English, mathematics, history, politics, religion, etc.); fundamentals of pedagogical knowledge (introduction to pedagogical science and others). Pedagogical practice is carried out weekly in the form of attending classes and then discussing it with the teacher of a higher educational institution or working with students during student holidays" [2, p. 132].

## **Setting a problem**

Due to the fact that in Germany all pedagogical higher education is integrated into universities, professional practice is currently carried out by future teachers outside the walls of the University. It should be noted that after graduating from the university, future teachers will have the right to enter the state training service. Here it raises the level of knowledge of the subject-practice of the school, as well as in seminars on didactics conducted by specialist teachers. This stage of education of a candidate to become a teacher ends with passing the second exam and attaining the rank of teacher [2, p. 38].

One of the works of interest to our research is G. Utyupova's PhD thesis "the development of the system of training teachers in Germany and Kazakhstan (on the example of primary school teachers)". In his study, he said that one of the most important conditions in the training of future teachers in Germany is "when enrolling, it is necessary to present the conclusion of a Phoniatrics expert on compliance with the requirements for the training of the applicant. For

training, in accordance with paragraph 17 of the law on higher education of the Land of Saxony, a certificate of Secondary Education (Certificate of majority, industry certificate of university graduation), a legal decree or a generally accepted certificate from an authorized state body are required. In Germany, the applicant states that on another important aspect of admission, the applicant must pass the entrance exam in the subjects of the specialties of art, music and sports, that is, the future teacher must be prepared to conduct these subjects." And this tradition indicates that in the 90s of the 20th century in the system of training pedagogical personnel for primary classes in Kazakhstan [3, p. 165].

## **Research methods**

In the course of the study, we also analyzed the process of professional training of future teachers in Germany. The first feature is that, based on its regulatory documents, professional training of future teachers is carried out not by specialties, but by type. For example, the training of 6 types of teachers is carried out:

1. Primary School teacher (grades 1-4)
2. Teacher of the first stage of Primary School and secondary school (5-10 grades of basic, real school, gymnasium and individual types of the first stage of Combined School or secondary school);
3. Teacher of the first stage of secondary school (grades 5-10 basic, real school, gymnasium and Combined School);
4. teacher of the second stage of Secondary School (11-13 grades gymnasium and United school) (general education subjects);
5. Teacher of the second stage of secondary school (grades 11-13) (subject of Professional Training); Teacher of a special school.

Duration of theoretical training according to the basic model of teacher training:

- traditional model of integrated training (8-10 semesters);
- multi-level model under the bachelor/master scheme (6 + 2 or 4 semesters).

Duration of practical training:

- Internship experience (referendum) (18-24 months)

We paid special attention to the elements of dual training, which are present in the system of professional training of future teachers in Germany, and we tried to group them:

- Elements of dual training in pedagogical practice within the framework of the traditional system of pedagogical education;
- Practical semester in the master's teacher training program (for example: North Rhine-Westphalia, Lower Saxony);
- Dual training in the framework of accelerated teacher training on the basis of Higher Education (on the example of the University of Leipzig in Saxony);
- Dual training models in higher education only partially meet the criteria of the expert commission on science (Wissenschaftsrat 2013) [4].

At the same time, we should mention the "three-phase training", which is the basis of the professional training of future teachers in the Federal Lands of Bavaria, Germany:

The first phase of the teaching profession, depending on the types, has a term of 4-5 years and consists of four internships (orientation, didactic, pedagogical, industrial). A student who has completed the first phase is admitted to the first state exam. The student who successfully passed it will receive a certificate and will be able to go to the second phase.

Of interest to us is the practice of this professional training in production (conducted at school), which is mandatory in the professional training of future teachers.

First of all, orientation practice is the practice of a student at school before or after admission to the University in terms of pre – university practice-the passage time is 6 months. Here the student works with 1 student. He is monitored, taught lessons, talked to him, carried out educational work, in short, has a close relationship with him.

Secondly, pedagogical practice is aimed at increasing the interest of the future teacher in the profession – after the 1st or 2nd semester (the choice of time depends on the student's will), it takes place during the holidays.

Thirdly, didactic practice (according to the method of teaching the discipline) – 1 day a week (Wednesday of each week) for 1 semester, until the last semester (the student himself chooses which semester to go).

Fourth, active pedagogical practice –160 hours-is approved by a special teacher from the university teachers who supervise, support, advise, teach, monitor, evaluate the student's practice, and a special mentor from the school.

Fifth, Industrial Practice – 8 weeks in the last semester-is a practice conducted at extracurricular enterprises [5].

In the second phase, the student works at the school (two different schools) for two years. Only after successfully passing the second state exam, a diploma confirming the qualifications of a teacher is issued. Thus, in Germany, a teacher studies for at least 7 years to gain knowledge, and the second phase of professional development of teachers is devoted entirely to improving their practical skills. And this proves that Germany has introduced elements of dual training into the process of professional training of future teachers. Passes the second state exam. The composition of the commission includes teachers of the school, university teachers, representatives of the Ministry, Department. In case of successful passing of the second exam, the third phase is sent for advanced training.

In the third phase – lifelong continuing education – advanced training.

One of the features of the professional training of future teachers in the federal lands of Bavaria, and the reason why we perceive it as elements of dual training, is the creation of A Center for pedagogical education on the basis of the University. A representative of the local Federal Ministry of Education is appointed as its leader. Its organizing body is the Executive Committee. It includes Deputy Deans, teachers, school teachers, and students. Their management functions include advising students, managing the quality of education, managing projects, etc. The control body of the center is an advisory council. Its composition consists of representatives of the Bavarian government, local authorities in the field of Education, school councils, departments. The subjects of their partnership are: students - Dean's office - management-rectorate. Areas of partnership cooperation in the field of internal pedagogical education, cooperation in management, business cooperation. We are interested in the management cooperation,

where training courses and training of teachers from the Bavarian government, the Ministry of Education, Education departments in the cities of Nuremberg, Fort, Erlangen or in an agreed Association are organized. And in business cooperation, students undergo internships, create projects, sponsor projects, and conduct a dialogue about the future of Education. Educational and methodological publications are published, seminars, conferences are organized, etc. [6].

Also, the respondents to the survey conducted in educational institutions on the federal land of Saxony deeply touched on the essence of the "dual teacher training program" – a model of alternative education at the Leipzig University Education Center. He paid attention to its advantages and disadvantages. Employers came to a common opinion that in a dual-orientation position, the organizational and incentive function is a priority (the importance of the need to consider the student as a single person in interaction with all participants in the dual-orientation learning process was noted).

Based on a comparative analysis of traditional and dual education in Germany and the Republic of Kazakhstan, in the course of studying the discussed data on the introduction of elements of dual education aimed at changing the ideological and functional-didactic structure of the educational process in higher education institutions

In Kazakhstan, in modern conditions, the professional training of future teachers is associated with the updated educational programs of schoolchildren.

Since the 2016-2017 academic year, the first grades of schools in Kazakhstan are studying on the updated content of Education. This is one of the stages of the planned reforms proposed by the Ministry of Education and science of the Republic of Kazakhstan. In the 2015-2016 academic year, students study according to new training programs tested in 30 pilot schools. Based on the principles of reforms in the education system, a gradual transition to a 12-year term of training will be carried out.

Training of pedagogical personnel is carried out through the implementation of educational programs offered by organizations of higher pedagogical education. The educational program is a regulatory and managerial document, which, together with the Charter, serves as a basis for licensing, certification, changing the parameters of budget financing and the introduction of paid educational services in accordance with the needs and interests of students. Currently, as a criterion for the quality of professional education, the demand of graduates in the labor market is taken, in connection with which the training of Modern teachers requires the creation of fundamentally new forms of Organization of the educational process. In this regard, higher educational institutions carry out purposeful work to strengthen the practice-oriented orientation of training. New forms of joint partnership will allow attracting employers to train teachers at the stage of compiling educational programs. Educational programs are built on a modular principle, taking into account the opinions of employers, the requirements of the labor market and are focused on the final result. Educational programs should be created in order to maximally prepare students for labor activities in the chosen specialty. The above innovations contribute to the implementation of the principle of continuity of education in accordance with international requirements [3, p. 153].

## Results and discussion

We have already shown that the problem of our research is due to the fact that the introduction of elements of dual training in the training of future teachers in Kazakhstan is due to the weakness of their practical-oriented training.

As indicated in the study of G. Utyupova, the period of study in Germany includes school practice, passing exams and is eight semesters. According to the standard, sections 2 and 3 are permitting the first state exam, the surrender of the English language, certified by a document during your stay abroad, is not considered valid for the period of study. For training in the specialty "primary school teacher", the total volume of the student's academic load is 240 test units, while theoretical training in Kazakhstan-129 credits of the Republic of Kazakhstan (206 credits ECTS); industrial practice (by Type) - 20 credits; the final state certification is 4 credits. We see that the period of practice in Kazakhstan is small in size, there are many types of practice according to the standard, but their relationship with each other is weak [3, p. 161].

In 2019, in the educational orientation embedded in the process of training a bolshak teacher in Kazakhstan, 24 were allocated to the module of general education disciplines (ECTS), 36 to the module of professional disciplines, 144 to the module of special disciplines, and 21 to practice (ECTS). This indicates that 60% of the total amount of training is allocated for special disciplines, 9% for practice, 15% for professional disciplines, and 10% for general education disciplines. This indicates that at present in Kazakhstan the number of practical subjects in the training of future teachers has increased, industrial practice has increased by 4-5%.

However, the modular design of the educational program in the Kazakh Pedagogical University does not yet imply the possibility of freedom of choice for the student, when compiling the program, the opinion of the employer is taken into account by including them in the Working Group.

Drawing up a program at a German university in a block-modular way allows you to promptly take into account the needs of the student, employer, labor market. Subjects common to all qualifications are combined into a single modular pool for all faculties. The student independently draws up an individual (non-linear) curriculum for each semester. Educational choices are made on the basis of students' study of the list of all educational activities at said University (Vorlesungsverzeichnis). At a German university, the student can choose a combination that is made up of several specialties, depending on their professional future or perspective. At the University of Germany, the student actively selects modern educational technologies (project, case studies, modular training, educational rating, distance learning using new information technologies) [7, p. 163].

Thus, the identification of the elements of dual training, reflected in the professional training of future teachers in Germany and Kazakhstan, allowed us to draw the following conclusions:

– The similarity of the requirements and justifications of Kazakhstan and Germany in the basic requirements for the professional training of future teachers (competitiveness, demand of a specialist in the domestic and world labor market, etc.) to the competence of future specialists (knowledge, business, skills, professional personal qualities), regulatory and legal documents (state standards, educational programs, standard curriculum, etc.), educational and

methodological support (curriculum, curricula, in the structural content of teaching aids, etc.), similarities were manifested;

– In Kazakhstan, future teachers are considered to have the right to work in educational organizations after 4-year, 3-year (post-college) training at universities. After studying in Germany for at least 6-7 years, of which 4 years are at universities, 2 years are internships, and only then are they admitted to the state exam and receive a diploma. The do element here is his practical internship under a school teacher for two years;

– In Kazakhstan, admission to the state exam is allowed by order of the head of the specified educational institution on the basis of university academic achievements, in Germany admission to the second important decisive state exam is allowed after the characteristics and recommendations of the employer;

– In Kazakhstan, pedagogy and psychology are taught before practice, and in Germany, in the second phase of teacher training, at the internship level of practical training at school, curricula, programs and teaching content are deepened to get acquainted with the psychology of the child's personality, with various aspects of pedagogical technologies, conflict resolution teaching, personality-oriented training and education;

– In the system of training future teachers in Kazakhstan, the emphasis is on theoretical training, and the practical part looks weak. Not to mention the second phase of professional training of future teachers in Germany (two years of internship at school), there are differences in practice in the preparation of the first phase (ten of Higher Education): Pre-University pedagogical practice; pedagogical practice with 1 day attendance per week during the semester, pedagogical practices during vacation time, etc.;

– In Kazakhstan, employers began not only to be included in the group of developers of educational programs, but also to involve them in the training process, in conducting classes, in the composition of the State Examination Committee, and in Germany this direction is systematically formed, in particular, employers participate in the development of legislative and regulatory documents for the process of training future specialists; feedback from employers and the needs of the labor market are monitored, departments necessarily take into account the requirements of employers when compiling modular training programs;

– In Kazakhstan, the pedagogical practice of future specialists at school is supervised by methodologists from the Faculty of the University, in Germany, methodologists of the University and additional mentors from school teachers are appointed to lead the pedagogical practice of students, etc.

## **Conclusion**

In conclusion, the conclusions reached during the study of the development of dual training in professional education in Germany and Kazakhstan allowed us to develop scientific and methodological recommendations on the use of elements of dual training in the process of professional training of future teachers in higher pedagogical education.

1) Organization of pedagogical practices during the holidays, etc.

2) drawing up a psychological and pedagogical map developed jointly with teachers of higher educational institutions and colleges who accompany the student (class), student (group) in the educational process;

3) cooperation of schools, colleges and universities in the design of scientific research (trilingualism, digitalization, self-knowledge, etc.);

4) conducting and improving scientific and practical events (educational and methodological complexes, teaching aids, textbooks, conferences, seminars, etc.) in the direction of "University Day at school", "school day at University", "School-College-University", etc.

5) creation of Centers for the organization of professional pedagogical education in higher pedagogical educational institutions, supervised and maintained by a representative of the ministry.

Thus, in the implementation of the main tasks of the elements of dual training in higher pedagogical education, teachers, students and students, schools, colleges, universities work together. And this will contribute to the growth of professional interest, professional determination, and practical skills of future teachers.

### **Contribution of the authors**

**A. Smanova** – Responsible for the concept of the research work. Defined the issues in professional training for future teachers within Germany's dual education system. Developed ideas, research goals, and objectives regarding dual education in Germany and Kazakhstan. Conducted a comparative analysis of teacher training systems in both countries, identifying duality models and specific features of Germany's approach.

**K. Sarybekova** – Responsible for the presentation and systematization of topics related to professional training for future teachers within the dual education system. Examined the integration of dual education elements into Kazakhstan's vocational education system. Analyzed duality models in teacher training in Germany and provided scientific and methodological recommendations for incorporating dual education elements into higher pedagogical education in Kazakhstan.

**E. Aitenova** – Developed a detailed plan for data collection and selected methods for analysis and data processing. Created models for studying the teacher training process in Germany. From regulatory documents, identified the specific characteristics of teacher training, classifying them by types rather than specializations.

**Zh. Sarybekova** – Organized and conducted the main experiment within the study. Described research methods in detail, including selected methods and data collection approaches. Performed a comparative analysis of traditional and dual education in Germany and Kazakhstan, examining data on the introduction of dual education elements in universities, aimed at altering the ideological and functional-didactic structure of the educational process.

**S. Koshimbetova** – Critically reviewed the manuscript text. Edited the article, monitored the reproducibility of results, and conducted a comparative analysis of findings. Summarized the conclusions, identifying dual education elements reflected in the professional training of future teachers in Germany and Kazakhstan.

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### **Дуальді оқыту негізінде болашақ педагогтарды кәсіби даярлаудың маңызы (Германия мен Қазақстан тәжірибесі)**

**Аңдатпа.** Мақалада Германияның дуальді білім беру жүйесінде болашақ мұғалімдерді кәсіби даярлаудың үш кезеңдік мәселесі қарастырылады. Сондай-ақ еліміздегі болашақ мұғалімдерді кәсіби даярлау жүйесіне салыстырмалы талдау жүргізіледі. Осыған сүйене отырып, болашақ мұғалімдерді даярлаудың неміс жүйесіндегі екі жақтылық модельдері және оның ерекшеліктері анықталды. Қазақстандағы кәсіби білім беру жүйесінде дуальді оқыту элементтерін енгізу мәселесі қарастырылады. Германиядағы болашақ мұғалімдерді даярлау жүйесіндегі дуальдылық моделін зерделеу негізінде Қазақстандағы жоғары педагогикалық білім беру процесіне дуальды оқыту элементтерін енгізу бойынша ғылыми-әдістемелік ұсыныстар беріледі.

Зерттеу барысында Германиядағы болашақ мұғалімдерді кәсіби даярлау үдерісін талдадық. Бірінші ерекшелігі, оның нормативтік құжаттарына сүйене отырып, болашақ мұғалімдерді кәсіби даярлау мамандықтар бойынша емес, түрлері бойынша жүзеге асырылады. Мысалы, 6 типті мұғалімдерді даярлау мәселесі көрсетілді.

Сондай-ақ, Германия мен Қазақстанда дәстүрлі және дуальді оқытуға салыстырмалы талдау жүргізілді, сондай-ақ жоғары оқу орындарында білім беру процесінің идеологиялық және функционалдық-дидактикалық құрылымын өзгертуге бағытталған дуальді оқыту элементтерін

енгізу туралы деректер зерделенді. Осылайша, Германия мен Қазақстандағы болашақ мұғалімдердің кәсіби дайындығында көрініс тапқан дуальді оқыту элементтерін анықтай отырып, қорытынды жасауға мүмкіндік берді.

**Түйін сөздер:** дуальді оқыту, болашақ мұғалімдер, университет, кәсіптік практика, кәсіптік оқыту, мектеп, практика, студент, оқытушылар, бағдарлама, Қазақстан, Германия, оқу жоспары, білім беру.

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### **Значение профессиональной подготовки будущих педагогов на основе дуального обучения (опыт Германии и Казахстана)**

**Аннотация.** В статье рассматривается трехэтапная проблема профессиональной подготовки будущих учителей в системе дуального образования Германии. Также будет проведен сравнительный анализ системы профессиональной подготовки будущих учителей в стране. На основе этого были выявлены модели двойственности в немецкой системе подготовки будущих учителей и ее особенности. Рассматривается вопрос внедрения элементов дуального обучения в системе профессионального образования Казахстана. На основе изучения модели дуальности в системе подготовки будущих учителей в Германии даются научно-методические рекомендации по внедрению элементов дуального обучения в процесс высшего педагогического образования в Казахстане.

В ходе исследования мы проанализировали процесс профессиональной подготовки будущих учителей в Германии. Первая особенность, исходя из ее нормативных документов, заключается в том, что профессиональная подготовка будущих учителей осуществляется не по специальностям, а по видам. Например, была показана проблема подготовки учителей 6-го типа.

Был проведен сравнительный анализ традиционного и дуального обучения в Германии и Казахстане, а также изучены данные о внедрении в вузах элементов дуального обучения, направленных на изменение идеологической и функционально-дидактической структуры образовательного процесса. Таким образом, это позволило сделать выводы, определив элементы дуального обучения, отраженные в профессиональной подготовке будущих учителей в Германии и Казахстане.

**Ключевые слова:** дуальное обучение, будущие учителя, университет, профессиональная практика, профессиональное обучение, школа, практика, студент, преподаватели, программа, Казахстан, Германия, учебный план, образование.

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