PROBLEMS AND PROSPECTS FOR THE FORMATION OF A DUAL-EDUCATION MODEL IN THE REPUBLIC OF KAZAKHSTAN

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ABSTRACT
The article deals with the introduction of dual training in the education system of Kazakhstan. For this, the experience of some foreign countries that have successfully implemented dual education has been examined. The steps taken in Kazakhstan to introduce dual training are related to bringing the legislative and regulatory framework in line with the adoption of state programs aimed at introducing dual training. The article also presents the problems that universities face when introducing dual training, the advantages and prospects are indicated. In the current conditions of global challenges that focus on breakthroughs in technologies and innovations, education and science should become priority spheres of activity in the country's economy. Modern trends in the development of higher education have caused changes in the system of functioning of higher and postgraduate education. It is known that developed countries achieve prosperity not only due to high technologies but also due to the high level of development of science and education.

Keywords: Dual Training, World Practice, Higher Education, Quality of Preparation, Educational Programs

INTRODUCTION
Kazakhstan has set a goal to develop industries with high added value. Several government programs have been adopted to achieve this goal. First of all, this is the State Program of Forced Industrial-Innovative Development (SPFIID), as well as the State Program for the Development of Education and Science of the Republic of Kazakhstan. The first program is aimed at developing manufacturing industries in the regions of the country, and the second - to provide them with qualified specialists that meet the needs of employers. Therefore, the State Program for the Development of Education and Science of the Republic of Kazakhstan for 2016-2019 points to the need to provide modern high-tech industries with specialists that meet the needs of the country's industrial and innovative development (The State Program, 2016).
At present, Kazakhstan attaches great importance to dual education. Dual education is a form of training, combining training in the organization of education with compulsory periods of training and practice at the enterprise with the provision of jobs and compensation payments to students with the equal responsibility of the enterprise, educational institution and student (The Law, 2016).

The impetus for the introduction of dual training was the adoption of the State Program of Forced Industrial and Innovative Development of the Republic of Kazakhstan. For the implementation of this program, qualified personnel for various sectors of the economy was needed.

President Nursultan Nazarbayev in his annual Messages to the people of Kazakhstan always emphasizes the issues of expanding the opportunities for young people for development and education, including for obtaining a quality higher education. In this connection, a goal was set in the framework of the industrialization program for ten universities, on the basis of which science will be linked to economic sectors and personnel training, to form the material and technical base of these educational institutions, by allocating up to 10 billion tenges until 2017 for these purposes" (State Program, 2010). A big problem of higher education today is the gap between the theory that students receive at the educational institution and the practical skills that employers and the labor market expect from them. Similar shortcomings in the training of future specialists are deprived of a system of dual education, combining in the educational process both theoretical and practical training.

The advantage of dual training is to ensure a high percentage of graduates' employment since they fully meet the requirements of the employer. Training is as close as possible to requests for production. It is noteworthy that the participant in dual training can be the smallest group in which the high motivation for obtaining knowledge is achieved, the psychology of the future worker is formed (The Labor Code, 2016).

Business structures on the basis of mutually beneficial partnership with higher educational institutions receive ready-made specialists trained according to their requirements. To that end, programs for dual training for higher schools, universities are being developed. Such programs combine theory and practically tested know-how. The essence of the reforms is reduced to the fact that students receive dual knowledge in two different educational institutions: practical phases of training are held at the enterprise, theoretical knowledge - educational institutions, institutes or academies. The alternation of practice and theory continues throughout the entire learning process. With this algorithm, the dual system differs from the classical one, that is, with a higher content of practical knowledge and skills.

Dual training systems are primarily used in such areas as economics, technology, and social security. Dual training is not practiced in the teaching of arts and humanities (The State Program, 2016).

One of the characteristic features of modern education is the gap between the theory that students receive at an educational institution and the requirements of enterprises and the labor market. Similar shortcomings in the training of future specialists are deprived of a system of dual education, combining in the educational process both theoretical and practical training.

METHODOLOGY

Higher educational institutions are not yet ready to reorient themselves to the new goals of training specialists. Existing state educational standards assume an equal balance between theoretical and practical training, although the emphasis is on practice-oriented forms and this should lead to an increase in hours of practical training. The system of dual education is structured in such a way that students receive theoretical knowledge within the walls of higher educational institutions, and practical skills students acquire at specific jobs (Rules for the organization of dual training).

Only with the introduction of new educational technologies, the modernization of the material and technical base of higher educational institutions, the preparation of a new generation of qualified personnel ready for life in the conditions of modern society is possible the withdrawal of education to the level of the developed countries of the world. With the globalization of the economy, increased...
competition, the entry of enterprises into international markets, there is a need for specialists with high intellectual potential, creative inclinations, and creative thinking, with high responsibility and self-discipline. The main human resource in the XXI century is the intellectual potential of the country, in general, and every enterprise, organization or institution in particular. This resource is based on meeting the requirements of international educational and professional standards, creative approach to their implementation and development, the direction of optimizing education, the maximum satisfaction of the educational needs of the individual and society. The main task of modern education in the conditions of rapid changes occurring in the world is the training of qualified specialists capable of self-realization, rapid response to the needs of the labor market, active participation in the socio-economic and cultural processes of the country and the world. Therefore, recently, there has been a noticeable interest in those educational technologies, models, and innovations that can provide a high-quality training of qualified specialists and the implementation of educational state standards and programs (Rodikov, 2010).

The ideology of higher education should be the new requirements for the organization of the learning process, in which students accumulate and improve the knowledge and skills that transform into further competitive advantages. The concept of higher education should be based on addressing the problems of the quality of education, its organization, the provision of innovative teaching, methodological, and information material, a high corporate culture (Yesenin & Faktorovich, n.d.).

To solve the problems mentioned above, it would be good to analyze and use the foreign experience. Studying the experience of the educational systems of advanced states allows a more critical approach to the problems of education and upbringing in one's own country, gives an understanding of the need for changes in the sphere of education, favors pedagogical innovations (KZinform, 2013).

The relevance of the study of the educational systems of those countries that have generally recognized successes, both in economic development and in the social sphere, including in the training of skilled workers, is currently increasing. Among these educational systems is the dual form of education in Germany, which, according to the International Institute for Monitoring the Quality of the Workforce (Switzerland), is included in the first group of countries in terms of skill level of staff (Afasizhev & Teshev, 2014).

The origins of dual education originate in the system of apprenticeship, which was spread in the Arab, Asian, European countries of the world in the earliest historical epochs. But in Germany, the development of dual education has acquired its national characteristics (Alimova et al., 2015).

According to modern interpretation, the dual system of education is organized educational programs for young people, which combine part-time employment in production and part-time training in the traditional university system.

Scientists involved in the dual system of education are unanimous in that from a scientific point of view the duality means "ambivalence", "a single organizational whole". This form of education arose as a product of the social partnership, which is a mechanism for close interaction of the state, employers, trade unions and various public associations in training highly qualified personnel in accordance with the needs of the labor market (Teshev, 2015).

A vivid example is the German vocational education system, which, according to the International Institute for Monitoring the Quality of the Workforce (Switzerland), is one of the leaders in the level of personnel qualifications, and its dual education system is in many ways a model for the entire European Union (The Law "On Education").

To date, the dual training system is one of the most effective forms of training in the world, which is widespread in industrialized countries and is the main training system in more than 60 countries (Arakelov & Alieva, 2014).

The dual system meets the interests of all parties involved - enterprises, employees, the state.

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For the enterprise, it is an opportunity to prepare for itself a staff, economy on expenses on search and selection of workers, their re-training, and adaptation.

For young people, dual training is an excellent chance to gain independence early and adapt more easily to adulthood. Already during the training, they can receive for their work at the enterprise a monetary reward, and after its completion - a job that is well prepared (Chernopolskaya et al., 2017).

The state, which effectively solves the problem of training qualified personnel for its economy, also remains in the clear win. In Germany, the main burden in the field of education rests with enterprises that spend more than 40 billion euros annually on improving the professional skills of their employees - more than the state's maintenance of higher education institutions. The state supports the training of specialists in the enterprise, financing a system in which students receive good practical training in dual education.

The dual system is constantly being improved thanks to new academic professions in new areas of work activity and modernization of the organization of vocational training in already existing professions (Decree of the President, 2010).

This type of training is closely related to practice. Therefore, immediately after graduation, the graduate can present to the potential employer many years of experience in the specialty. However, he spent less time on theoretical training than his peers who studied classical curricula (Experience of dual training).

The dual system in educational institutions requires teachers of a new format. On the further development of the education system in the dual format, we can say the following: on the one hand, it is necessary to preserve the existing education system that implements the continuity of the principles "from simple to complex", and on the other "from the general to the private" (Fadeeva & Lupandina, 2017).

At present, many higher educational institutions of Russia and Kazakhstan have started transitioning to the dual system of education. For example, since 1997 in Pavlodar the Innovative University of Eurasia has translated the preparation of students of the economic direction into a dual system of education. The introduction of the dual system in the university was preceded by a lot of preparatory work, including studying the experience of its organization abroad. In 1995, the joint work of the Innovative University of Eurasia with the Kazakh-German Academy enabled the teachers of the university to undergo a half-year internship at universities in Germany and study foreign experience in organizing training of specialists within the dual system (Gričaniková & Posokhova, 2014).

A transfer of students to the dual system of education is only from the third year. This is due to the fact that by this time, students are fully studying the cycle of general educational disciplines, acquire basic knowledge in the specialty and begin to study the profiling disciplines that form the basic professional knowledge, skills, and abilities. In this case, the dual system becomes a testing ground for students, on which the quality of the knowledge is checked, the theoretical material is consolidated, practical skills are formed, which is very important in the context of the requirements of the competency model of training specialists (Ibrasheva & Bilimdi, 2016).

Defining in general terms the essence of the dual system of training, it should be noted that it enhances the practical orientation of training specialists by integrating into the educational process a large volume of production practices, which greatly enhances the professional mobility of graduates. At the same time, the introduction of the dual system provides for a fundamental change in the organization of the educational process, which is based on the rational combination of theoretical training and extended production practices at enterprises and organizations throughout the academic year. The principle of individualization of practical training and the approximations of its content to the real conditions of economic entities is introduced, which manifests itself in the maximum orientation of assignments for practice, course and diploma work on the conditions of management and the
requirements of enterprises and organizations - future potential employment opportunities for graduates (Kharitonova, 2017).

The indisputable advantages of dual training include:
1. A high percentage of graduates' employment is ensured since they fully meet the requirements of the employer. Training is as close as possible to requests for production.
2. High motivation to acquire knowledge is achieved. A new psychology of the future worker is being formed. Students, first entrenched in the enterprise as potential employees, learn completely differently, more consciously and more interested. The position of the passive consumer of educational information is replaced by the initiative position of a specialist in production, who must make decisions and bear responsibility for them. The student adapts to the production relations in the team earlier, he learns social actions (Klimenko, 2016).
3. The principle "from practice to theory" works, the student works more not with texts and sign systems, but with production situations. Complex theories are easier to master through practice and solving real professional problems (Matveev, 2014).
4. The evaluation of the quality of training specialists conducted by the employers themselves. From the first days, the student spends most of his time in the workplace, showing his skills and diligence. Employers get an opportunity to assess the level of preparedness of future specialists directly in production conditions (Liu, 2016).
5. Teachers should have not only good theoretical knowledge but also master all the innovations in production (Kolga, 2014).
6. The burden on the budget is decreasing. Part of the cost of training qualified personnel is borne by the enterprise (Teshev, 2014).

Due to the importance and urgency of the training of personnel, taking into account their needs for Kazakhstani enterprises, attention was drawn to the experience of foreign countries. In the world practice, the dual system of education has long been recognized. The system of dual education successfully operates in many European and Asian countries, like Great Britain, Italy, Brazil, etc. (Matveev, 2016).

Recent studies in the European Union indicate a high investment attractiveness of such programs. According to the results of the survey of EU employers, the payback of the funds invested in dual formation occurs on average in the period from nine months to three years (Tereshchenkova, 2014).

In the UK, 96% of employers note that dual training is beneficial to them. In 2010, 20 universities in the UK brought $ 22.3 billion in income and provided 243,000 jobs. Over 2/3 of the research results are being introduced into the country's economy (Ibrasheva & Bilimdi, 2016).

An example of the successful implementation of dual training among European countries is Germany. The economic success of this country testifies to the value of dual training, built on close social partnership. In Germany, 90% of large companies or every fifth company attracts students, respectively, the labor market in Germany by 54% is formed by graduates of dual programs. It should be noted that the main costs for training are provided through private investments, which are about 23 billion euros and only 3 billion are allocated by the state (Experience of dual training). This shows that the private sector of the economy invests long-term investments in training specialists of the right profile. This amount in aggregate is 0.9% of the country's GDP, while in Kazakhstan all expenditures for technical and vocational education (hereinafter referred to as TVE) are 0.2% of GDP (Ibrasheva & Bilimdi, 2016).

Germany became the first country to use the principles of the dual system of education (this system has been used for more than 15 years). The implementation of the educational process proceeds by synthesizing production activities as an intern (student) and studying the theoretical part in an educational institution. In addition, a step-by-step complication of educational and practical tasks occurs. It is known that Germany's professional education, although decentralized, is nevertheless built according to a certain standard. In Germany, since 1981, there are such legislative acts as "On the promotion of vocational education" (describes regulation tools in the planning and statistics of...
vocational education), "Law on the Protection of Youth Labor" (justifies the protection measures for students), "The Treaty on Vocational Training" (Decree of the President, 2016).

The professional training strictly corresponds to the List of professions, which has now been reduced from 600 (according to data for 1971) to 380 professions. The reduction in the number of professions occurred in connection with the integration of training specialists in similar areas of activity. It should be noted that the name of professions, the totality of knowledge, skills, and abilities necessary for mastering students for each profession, as well as a standard curriculum and final certification requirements are developed and agreed by the Minister of Education and Science in conjunction with the minister of a particular industry. The developed documents are a legal basis and are mandatory. In addition, the state is trying to compensate the company's expenses for professional education. Financial investments in the system of dual training of specialists in Germany amount to approximately thirty billion euros. The majority of enterprises, through dual education, provide themselves with qualified personnel that meets the specific requirements of employers, which saves on costs in the search, selection, and adaptation of employees.

Having analyzed various literature on dual training, we have identified a fairly large number of possible advantages of such education.

In the dual system, educational institutions, as well as production enterprises, firms and organizations are involved in education. Programs of the dual system of education integrate the theory and proven know-how. The substantive meaning of the transformations is that the dual education students receive simultaneously in two educational institutions: universities and institutes - the theoretical part, and in production – practical (Yugfeld, 2014).

**FINDINGS**

The dual system, as a distinctive characteristic of the traditional one, requires, during the entire period of training, the alternation of theory and practice, which leads to the effectiveness and efficiency of the use of the acquired knowledge and skills. From the professional school education, the system of dual education differs also in the fact that most of the school week is devoted to practice at the enterprise, and less (1-2 days) to the university (The Law, n.d.).

As a rule, the dual system of education is used in the technical and socio-economic fields, covering also the construction and engineering directions. The dual system has not bad proved itself in social management and management of tourist business.

In recent decades, the dual system of education has become acceptable in the field of information technology due to the constant modernization of the training of highly qualified specialists.

The practical experience in implementing the dual system of education in Germany shows that most of the directions for training future specialists are regulated by an agreement between social partners, regions and the state. The training of specialists of a particular profile is based on the demands and requirements of the personnel market, which makes it possible to provide young people with professional mobility and competitiveness. The training period varies up to 3 years. Trainees (students), who pass the practical part of the training at the enterprise, receive an earned payment. The system is financed by the state and enterprises. The competence of the state is training in the enterprise, and the competence of the region includes training in a professional university. The enterprise fully provides the training process with modern equipment that meets the requirements of technology. Large enterprises and organizations can afford training in their own laboratories and workshops, small ones in the workplace.

The initial stage of training is directly related to the passage of the production practice, and as a consequence, a graduate of a higher education institution is able to demonstrate to the potential employer many years of practical experience in the chosen professional profile.
The trainee in the dual system is financially the most independent due to the fact that it has wages already in the period of training, although it is small. However, it should be noted that he spent less time studying the theory than those who studied the traditional system of vocational education.

To promote the idea of dual training, the Ministry of Education and Science of the Republic of Kazakhstan together with the National Chamber of Entrepreneurs developed a Roadmap for introducing dual training, which identified 11 priority sectors of the region, such as machine building, metallurgy, agriculture, services, transport, construction, etc., education, which will train the relevant personnel (Road map of the dual system). The Roadmap also reflects the priority development of each region and identifies projects within the framework of the State Program for Accelerated Industrial Development for 2015-2019.

Within the framework of realization of the idea of dual education on behalf of the Head of the State, the National Welfare Fund of Kazakhstan has drawn up a step-by-step plan for implementing the dual model and defined a list of basic enterprises that participate in this project. So, since July 2012, “Samruk-Kazyna” JSC has been carrying out a complex work to introduce a dual system of training production personnel at its enterprises.

The implementation of the principle of obtaining a diploma in the format of "theory fixed in practice" in Kazakhstan created 24 experimental sites in all 16 regions (The dual learning).

With regard to the introduction of dual training, the system of higher education lags somewhat behind the post-secondary education, since there is no special state program or pilot projects for higher education institutions. In this regard, dual training in higher education institutions is realized mainly through their own initiatives. In the system of higher education, the leaders of the introduction of dual education are technical universities. Among the technical universities of the Republic of Kazakhstan can be identified Ekbastuz Engineering and Technical Institute named after academician Satpaev.

At the same time, Kostanay State University named after A. Baitursynov, which is a university of a broad profile, that is, combining both the technical and humanitarian direction of education, also carries out corresponding work on the organization of dual training. Elements of dual training are introduced at all departments by organizing branches on the basis of enterprises.

Despite some positive examples, one cannot help but admit that there are still problems in training for dual training. In a bunch of "education organization - trainee - employer" one can identify some problems (Shumakova et al., 2016).

First, the organization of dual training in the system of higher education must be based on legal norms, which are not currently available. Therefore, there is a need to create a right basis for regulating the relationship between higher education institutions and enterprises.

Secondly, according to the dual education implemented in Kazakhstan, only one form of interaction is offered, under which investments are being made in a particular student. In higher education institutions, on the basis of the principle of diversification, various forms of cooperation between the customer and the organization of education are possible, such as the order for the performance of a certain amount of production, type of activity, etc. (Tereshchenkova, 2014).

Third, the inadequacy or absence of joint research and development projects. The cooperation with organizations should be oriented not only to current needs but also to future prospects, which implies the development of advanced technologies. The realization of this task is possible in fulfilling orders of organizations for scientific developments, joint projects, scientific studies.

Fourth, one of the factors that hamper the development of dual training is a lack of funds. In the majority, Kazakhstani entrepreneurs are not ready for long-term investments related to the training of personnel, since it is difficult for them to make long-term forecasts. In addition, the legislation of the
Republic of Kazakhstan does not provide for tax preferences for participation in training. In order to increase the interest of organizations in joint training, the Ministry of Education and Science of Kazakhstan has come out with an initiative to reduce the taxable income of enterprises operating in the dual system by the amount of costs associated with training, retraining and raising the level of skills of the staff (Tayursky & Levko, 2015).

At the same time, both world practice and the experience of using the dual system of education in Kazakhstan show the merits of this education system. The introduction of dual education should not take place through the eradication of the adopted education system, but by harmonizing it with the existing system and the dignity of dual training indicate this.

1. The dual system of education, first of all, has the targeted character of training a specialist, thereby solving the problems of training the right profile, taking into account the interests of employers on the one hand and employment on the other.

2. The dual system of training students opens up additional opportunities to increase the effectiveness of training, as it creates a high motivation for obtaining knowledge and skills in work. This is due to the fact that the quality of students' knowledge is directly related to the performance of functional duties at specific workplaces.

3. It provides the diversification of higher education, i.e. it allows to increase the variety of offered educational programs developed together with employers. For example, the Accounts Committee for Control over the Execution of the Republican Budget came out with the initiative of opening a new specialty "State Audit". The need to open this specialty is due to the fact that specialists of the modern formation, who have specific aspects of conducting state audit and financial control, competitive in the labor market, are required. This project is currently being successfully implemented at the L.N. Gumilyov Eurasian National University on all three levels of training: bachelor's - master's degree - doctoral Ph.D.

The admission to the specialty 5B050800 - "State Audit" (baccalaureate) was 37 people, of which 25 people or 68.0% were enrolled in the state educational order and 12 people or 32% came on a fee-contract basis. Almost 90% of students enrolled in the state educational order are holders of the sign "Altyn belgi" and winners of subject Olympiads.

In the magistracy of the specialty 6M052100 - "State Audit" set was 7 people. Of these, 4 or 57.0% came under the state educational order and 3 or 43% - on a fee-based basis. In the doctorate in the specialty 6D052100 - "State Audit" 1 doctoral student was enrolled on a fee-based basis.

It should be noted that elements of dual training are being introduced from the first days of training of personnel in the specialty "State Audit". This work is carried out in close cooperation with the Accounts Committee for Control over the Execution of the Republican Budget and the "Center for the Study of Financial Violations" (Nugerbekov, Alibekova, & Nurkhalieva, n.d.).

4. Ensure the interconnection of such systems as science and education, science and production, etc. The cooperation on such aspects leads to qualitative changes in the training of higher education specialists, both technical and humanitarian.

5. It is economically advantageous for employers to invest in education, as they receive a specialist with in-depth theoretical knowledge and skills in practical work. Prepared highly qualified professionals after completion of training are able to effectively perform their duties.

CONCLUSION

In order for all these advantages of dual education to work, the appropriate interaction between higher education institutions and potential employers interested in training specific specialists is necessary. This interaction can be in the following areas:

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1) the participation of employers in the development of state compulsory education standards, standard curricula, and educational programs;

2) the organization of professional practice of students using the technological base of enterprises with the involvement of specialists with experience of professional activity in the relevant sectors of the economy. Conducting training for teachers of special disciplines to familiarize themselves with the specifics of the industry and production technology;

3) the development of interaction between the parties on the issues of assistance to the employment of graduates of higher educational institutions to provide the labor market with highly qualified specialists in accordance with the requirements of professional qualifications;

4) the participation in the organization of quality control of the training of specialists in the conduct of the state total certification of students;

5) the attraction of financial resources of employers to the development of educational organizations.

The structure of the work program should be oriented to the needs of the employer - the customer of a particular specialist, both in terms of the competence and qualifications of the trainee, and the duration of the training period. Elective disciplines and the number of hours for each subject is determined by the customer in agreement with the university. When developing an educational program, one should be guided not by the specialty that the student receives, but by the competencies - by a set of skills and abilities that enable him to adapt quickly to the production environment.

In the educational process, seminars (practical classes) discuss practical situations and solve production problems that occur in enterprises in which trainees are trained. Themes of final works are coordinated with the future employer.

The social partnership in the field of higher education is focused on increasing the adequacy of the results of the education system, bringing the level of staff training closer to the needs of the economy and employers, strengthening the links between training and production, and attracting additional sources of funding.

Thus, dual education provides the learner with simultaneous theoretical training to master the practical skills of the chosen profession directly in production, i.e. he studies at once in two places: in the organization of education and at the enterprise.

Consequently, effective development of dual training, and, ultimately, professional training of personnel is possible only with joint efforts from employers, educational organizations, and students.

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