



## Education as a Global Problem of Mankind: Basic Approaches to Dual Education in Higher Education

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**Abstract:** This study is devoted to the study of the question of the introduction of dual education in the system of higher education. As an object of research, an analysis is made of the dignity and the reasons for the transition of modern education to a new educational model that assumes an uninterrupted connection between theoretical education in a university and the passage of practice at an enterprise. The stages of introduction of dual education in the Republic of Kazakhstan are also described. We paid special attention to the state of modern education, points out the shortcomings of the modern educational system, its difficulties and the fact that modern higher education is going through a deep crisis.

## INTRODUCTION

The study is devoted to the state of modern education, its quality and shortcomings. The thesis that the state of modern education is one of the global problems of mankind is revealed in the work. As a means of dramatically changing the educational model, it is necessary to introduce dual education. The main part of the work is devoted to the stage of introduction of dual education in the Republic of Kazakhstan.

We live in an age of information supremacy, high technologies. There is a stereotype in society that every person should receive higher education. This is not just a necessity for employment but also a way of realization and self-affirmation. In society, they condescendingly or scornfully treat people who do not have a higher

education. And vice versa those who have a higher education, in the eyes of society look more respectable and serious<sup>[1]</sup>. In this regard, the importance of higher education increases. The education system is actively developing: new educational institutions are emerging, new specialties are emerging. But there are a number of problems:

- Higher education is not available to everyone as it is very expensive and not every country has grants for education
- Existing models of education are outdated and there is a need to develop and introduce new ones
- New methods of training must be developed
- The level of literacy of the population and the possession of professional skills among specialists have decreased markedly

The problems of education are associated with the trends of globalization. In today's world, characterized by openness and almost complete blurring of boundaries, it is impossible to solve problems locally. Solving problems related to education in a particular country or region will not affect the solution of the same problems on a global scale. To overcome the crisis, it is necessary to develop a set of measures and solutions and introduce it everywhere. Only such an approach will have a positive impact on the solution of existing problems<sup>[2]</sup>. The next feature of modern education is its fundamentalization.

Fundamentalization is the process of transforming modern education into an integral core, consisting of material, social, cultural and economic components, theoretical and practical parts<sup>[3]</sup>. The implementation of the process of fundamentalization will lead to a change in the nature of the work of the specialist with information, an important role in which will play computerization. Another relevant trend of modern education can be called the development and implementation of continuing education. The essence of continuing education is that a person must continue to study, improve his professional level throughout his professional activities<sup>[4]</sup>. Education must be effective, only in this case it will make sense. The effectiveness of the educational process depends on a number of factors:

- The person's need and motivation to acquire knowledge
- The state of the material and technical basis of universities
- The attitude of society towards education and educated people
- Quality of teacher training for higher education
- The level and quality of communication between participants in pedagogical activity
- The relevance and effectiveness of the training methods used<sup>[5]</sup>

All researchers note that the modern education system is experiencing a serious crisis which turns it from reaching humanity to a problem. To overcome the crisis, it is necessary to make education more accessible, to reduce the number of illiterate people, especially for poor countries. The next problem that needs to be solved is the division of all of the universities into public and elite ones. In elitist universities I can learn from wealthy, wealthy families. This division is not acceptable in the modern world, since, it represents a problem in the development of the modern education system.

Every year, the level of passing grade points to the university decreases which indicates a low quality of the pupil's mastery of the school curriculum which leads to a low quality of students<sup>[6]</sup>. It should be noted that the number of students grows much faster than the number of

higher or secondary special educational institutions. In this regard, groups in academic institutions may be overcrowded or their number may be higher than established which will lead to congestion of the faculty, lack of teaching aids in the library and other difficulties associated with the organization of the educational process.

An important problem is the degradation of society, including the cultural one. Modern society is characterized by lack of spirituality, lack of authority, idolatry and familiarity. It is necessary to restore to society moral values and respect for the traditions and culture of peoples. This need is due to the fact that only an educated, spiritually healthy population of the country is able to ensure the nation's competitiveness in the era of globalization. Thus, for the withdrawal of the modern education system from the crisis, it is necessary not only to change the model of education but also to raise the level of the culture of society. An interesting innovative model of education is dual education. Dual training is a special kind of training, the distinguishing feature of which is the study of the theoretical part of training on the basis of an educational organization and practical-in the workplace<sup>[7]</sup>.

## **MATERIALS AND METHODS**

The development of methods for introducing dual education into modern education has been devoted to a large number of works. For example, foreign researcher Hensen R.F. describes the methods of introducing dual education to European countries. Domestic researchers Kuzembaev and Alzhanov<sup>[6]</sup> analyze the stages of introduction of dual education in domestic universities. Gileva N.V. analyzes the legal aspects of the introduction of dual education in the domestic education, pointing to the need to refine domestic legislation in the field of health.

The dual system has been introduced, mainly in the field of vocational education and has been widely disseminated and recognized around the world. It is not just a system for training professional personnel but an educational system that is based on creating conditions for students that are as close to labor as possible which can help the trainees to have the conditions for professional training<sup>[8]</sup>. One of the features of dual education is the ability of enterprises to order universities to the required number of specialists. Such an approach will help to avoid super-saturation of the labor market by specialists in a particular field.

Future employers participate in the preparation of the curriculum which introduces practical training in the enterprise. Thus, students receive practical training and acquire professional skills throughout their studies at the university<sup>[9]</sup>. It is the equal participation and equal

responsibility of the educational institution and enterprise for the learning process and students is the basic principle of the dual system of education. In other words with this kind of education, the responsibility for the professional skills of graduates is borne not only by the educational institution but also by the enterprise where students practice.

## RESULTS AND DISCUSSION

Figure 1 shows the scheme of interaction between the educational institution and the enterprise. The enterprise is interested in such a training system because it can train the necessary number of professional staff while reducing expenses (financial and temporary) for the search and selection of employees, their training and adaptation. The trainees at the enterprise get acquainted with the real conditions of production and receive the necessary skills for labor activity. They also have the opportunity to find employment at the end of the training at the enterprise where they have been practicing<sup>[10]</sup>. Let's highlight the advantages of dual training technology.

It became possible to organize an educational process in a dyad "university-enterprise". Thanks to the work under this scheme, training and practice take into account the production requirements that are imposed on the future specialist. Dual training technology allows you to prepare trained professionals throughout the training process. In the process of training specialists are involved 3 parties: an educational institution, an enterprise and a student<sup>[11]</sup>. The main drawback of the traditional education system is removed: the gap between theory and practice. Solving this problem makes it possible to increase the student's practical skills.

- The teacher has the opportunity to form the professional personality of students
- Employers become interested in the student because during the training they "grew" him

Students greatly increase their motivation for learning activities because they see this as a practical necessity, they can immediately see the result. This is also due to the fact that the higher the quality and level of knowledge, the better the trainee will perform his duties and get more chances for employment<sup>[12]</sup>. The graduate's mobility in the professional direction is increased, his competitiveness in the modern labor market which equates young specialists with workers with experience<sup>[13]</sup>.

For training on the dual system, it is necessary to conclude a contract with the enterprise. On the recruitment of students, enterprises are announced in advance. For training on the dual system, entrants must produce a certificate of primary school education. For training in certain specialties make special demands. For



Fig. 1: Scheme of interaction between the enterprise and the university in dual education

example: knowledge of a foreign language or mathematics, a profile subject, possession of computer technology, the presence of certain personal qualities. Graduates of German schools or immigrants who graduated from school and who received their first professional education outside Germany have the right to study under this program<sup>[22]</sup>. It is possible to single out a number of distinctive features and advantages of the dual system of education in front of other training models:

- The practical part of the training, i.e., direct mastering of professional skills is carried out at the enterprise
- The curriculum and the content of the discipline are compiled and agreed upon by the training unit and the enterprise with which the contract for internship and subsequent internship of students is concluded
- The company can immediately apply the acquired knowledge
- There is a business relationship between the educational institution and the enterprise
- The acquired knowledge on the theoretical part of the training is immediately fixed by work in practice<sup>[14]</sup>
- Students try to constantly improve their professional level and improve their skills
- All students undergo the same level of training

The listed merits show how different is dual training from the traditional education system, illustrates the benefits for students. Initially, the dual system was developed for secondary special educational institutions, colleges but later it was introduced into the system of higher education. The introduction of dual education in Kazakhstan is carried out with the support of German educators and sociologists, culturologists.

Implementation of the introduction of dual training is carried out in stages. In Astana, tripartite agreements on social partnership were signed within the framework of introducing a dual training system in the companies of Samruk-Kazyna JSC. Nursultan Nazarbayev instructed the competent authorities to determine the list of basic

enterprises and develop a dual model of training specialists. To fulfill the order of the Head of State, the following measures were taken:

- Dual education systems introduced
- 16 corporate training centers have been modernized
- Catalogs of professions and specialties have been developed uniform professional standards and models of sectoral qualification frameworks have been developed<sup>[15]</sup>

Now many universities of Russia and Kazakhstan have started to pass to the dual system of education. For example, the domestic Pavlodar Innovative University of Eurasia which since 1997 has translated the preparation of students of the economic direction into a dual system of education. This was preceded by a lot of work, it is simply impossible to introduce a dual system without preparation. For this purpose, the experience of foreign higher schools on the introduction and organization of a dual system of education was studied, joint work was carried out with the Kazakh-German Academy, namely the training of the teachers of the Pavlodar Innovative University of Eurasia. After that a gradual transition to a new type of education began<sup>[16]</sup>.

The transition of students from the traditional system of education to dual education is carried out only from the third year. This is due to the fact that the first two years of education students learn general education disciplines and from 3-professional. With this approach, the dual system of the learning process for students turns into an experimental site where they can apply the received professional skills, see and correct mistakes<sup>[17]</sup>. Somewhat differently, dual education is being introduced at the Russian university. For example, the Economics Department of the Adyge State University of the city of Maykoma introduces practice-oriented training in a number of specialties. For several years, the faculty of the university has been studying the experience of introducing the dual system of education of foreign countries and innovative institutions in Russia<sup>[18]</sup>. To develop the education system in the post-Soviet space in the format of dual education it is necessary to solve the following tasks:

- Analyze the existing catalog of specialties and identify those in which it is possible to introduce dual training
- To coordinate with enterprises and companies cooperation issues, to draw up a schedule of those who are ready to take on the production of students and train them. The selected companies must have the appropriate production facilities for this

- Bring the material and technical base of the university in line with the requirements for dual education: open the necessary laboratories and production sites, lecture audiences<sup>[19]</sup>
- Introduce mandatory annual internship for teachers of special disciplines and masters of vocational training in advanced training courses
- Prepare teachers for the transition to a new type of training, teach special methods and methods of training<sup>[20]</sup>

It is possible to single out the main distinctive feature of dual education-the interaction of business and education. The main system-forming factor of the dual form of vocational training is the institution of social partnership with a clear differentiation of the interests and responsibilities of each partner with the leading role of employers and the goals and the periods of its formation are the main indicators characterizing the dual form<sup>[20, 21]</sup>. The dual form of professional training assumes the following factors:

- The diversity of vocational education institutions
- Multistage in the organization of the vocational training process
- The existence of a unified system of organizational and pedagogical principles for the interaction of state and regional executive authorities in the implementation of educational policy

Distribution of responsibility for professional training between state structures and employers with the interrelation and interdependence of pedagogical theory and practice, taking into account the age and individual characteristics of students in the educational process with social partnership, the combination of cognitive, labor and other activities of trainees with the aim of their professional self-determination and formation<sup>[22]</sup>. In the Republic of Belarus, the introduction of a dual technology of training, following the example of German colleagues was launched to solve several problems:

- Lack of seniority among young professionals which hinders them in finding a job
- Trainee students receive necessary experience are trained in practical skills
- Enterprises will cease to experience shortages of staff, since, dual training provides a regular influx of young professionals

In our country, the introduction of dual education is carried out in accordance with the decree of the President. In his article "Social modernization of Kazakhstan: Twenty Steps to the Society of General Labor" NA.

Nazarbayev notes the need to develop dual professional education, the creation of modern centers of applied qualifications that will overcome the shortage of personnel in mass occupations. In the context of optimization, it is necessary to strengthen the continuous vertical of education. It is important to restore the logical interconnection of all types of “age” education as a whole elevator-preschool, primary, secondary, vocational, higher and postgraduate.

According to the Message in the national education system, it is necessary to implement a phased transition to dual education with its partial introduction into individual higher education institutions. Special attention should be paid to technical specialties. Also, under the President’s Order, the Government was recommended to accelerate the adoption of the Law “On Professional Qualifications”, take measures to update the infrastructure and material and technical base of the TVE, create conditions for the formation of a modern building of engineering and pedagogical personnel. The National Chamber of Entrepreneurs recommended:

- Legally fix the obligations of organizations on the issues of practice in the workplace and vocational training in enterprises
- Provide student workplaces for practicing practical skills for students
- Consider the possibility of making a co-payment for the wage for mentoring for experienced instructors and mentors at work, etc.<sup>[23]</sup>

The participation of enterprises and companies in educational activities is motivated by their interest as a result they receive a trained and qualified specialist who does not need to retrain or explain the features of production. Such an approach is beneficial for enterprises and therefore it can be assumed that the state will find support for the implementation of the principles of dual education in the business environment. Future employers for the introduction of the dual form of training must provide conditions for practical training and bear all the costs associated with this. In order to implement this innovation, Paragraph 4 of Article 140 of the Labor Code has been amended to provide that the employer should assist educational organizations implementing educational programs of technical and vocational education in training, retraining and raising the qualifications of staff.

## CONCLUSION

Thus, in the post-Soviet space, dual education is being actively introduced into the system by the higher school. The Russian Federation, the Republic of Belarus and the Republic of Kazakhstan make use of the

experience of foreign colleagues and established cultural ties with Germany for a phased transition to dual education<sup>[24]</sup>. The introduction of dual education in the domestic system of higher education will positively affect the quality of education and training of specialists.

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