

DUAL EDUCATION - TOOL FOR RECONSIDERING EDUCATION

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Abstract

The scientific approach of this paper addresses the problem of the imbalance in the labor market between the educational offer and the labor force demand. One of the problems that led to the imbalance on the labor market and the labor shortage is conditioned by the weak interaction between the professional training system and the actors involved in the hiring process. Under these conditions, we consider that professional education in the dual system becomes a very important mechanism. This allowed the author to analyze the model of dual education at the national level but also the experience of other countries.

Keywords: labor market, deficit on the labor market, educational offer, demand and supply of labor, dual education

Clasificare JEL : I25, J08, J23, M35

1. Introduction

Currently, the labor market in the Republic of Moldova suffers from imbalances between the educational offer formed in professional technical education and the demand for labor. In the conditions of the globalized economy, the labor market requires advanced general and specific professional skills. In such conditions, the professional training system must be efficient and connected to the needs of the labor market.

The rigors of the labor market demonstrate the need to adjust the traditional model of professional training to the realities of the economy. The dual education model is considered effective, if it works under the specific conditions necessary for it, as shown by the practice of developed states.

The term "dual education" is widely used as a comprehensive term, referring to the fact that teaching and learning in VET (vocational technical education) is characterized by "duality" from two points of view:

- the duality of learning spaces (VET schools/providers and training companies), which share responsibility for providing theoretical and practical training;
- the duality of actors involved (public and private actors), who share responsibility for VET policies and practices [8].

The dual character of learning spaces is the basis of the definitions used in European and international specialized literature. According to UNESCO, "the dual education system is called "dual" because it combines apprenticeship in a company and vocational education in a vocational school in a single course" [14]. Within the company, the apprentice benefits from practical training, which is complemented by theoretical training at the vocational school.

According to CEDEFOP, dual education refers to "periods where learning or training in an educational institution or training center is combined with learning or training at the workplace". CEDEFOP also refers to dual education as work-study, emphasizing that the term "dual education" can be used as a synonym for "work-study", "apprenticeships" or "work-based learning". There

are, however, a number of small but significant differences between these terms, as they differ from the point of view of the two aspects mentioned above [13].

Dual technical vocational education represents an alternative form of classical technical vocational education, highly appreciated and practiced in several European countries such as Germany, Denmark, Switzerland, France, Austria, Bosnia and Herzegovina, Croatia, Serbia, Slovenia, Macedonia, Montenegro. Dual education is focused on the needs of both students and employers. The model provides for the control of the professional training process by the state by ensuring the quality of the training process, the development of the curriculum, the implementation of the regulatory framework, the training of the specialist from a standardized theoretical point of view. The training of the specialist from a practical point of view is provided by the economic agent, which is also responsible for financing this process. Up to 75% of professional training costs fall to economic agents. Thus, dual education offers equal opportunities to all young people to embrace a profession that will bring them long-term benefits and satisfaction, and gives employers access to a well-qualified workforce.

The German dual education model is considered the most organized, with traditions dating back to the Middle Ages and is recognized by the World Bank as a successful model, it developed with the development of the economy through collaboration between unions, employers and the government. The dual education systems in other countries of the world are similar, only that from country to country there are certain legislative and organizational peculiarities [10, p.89].

2. Dual education in the Republic of Moldova

In the Republic of Moldova, dual education has been applied in the professional technical education system since 2014, at the initiative of the Ministry of Education and Research of the Republic of Moldova in coordination with the Chamber of Commerce and Industry, which carries out the support and monitoring activity of dual education. Education Code of the Republic of Moldova no. 152/2014 establishes that in technical professional education, for certain trades/professions dual education can be applied, under the conditions established by the Ministry of Education and Research through coordination with other relevant central bodies and with interested economic agents. Dual education takes place, in parallel, in technical vocational education institutions and in enterprises or other economic units [1].

With the entry into force of the Law on dual education, No. 110 of 21.04.2022 (hereinafter Law), the detailed and comprehensive legal aspects of dual education in the Republic of Moldova were established. The law fully regulates the organization of dual education, but also the status of the parties involved (Chamber of Commerce and Industry, economic agents), as rules generally applicable to all fields. This normative act is circumscribed by the principles and values promoted by the European Union, and the German experience in the organization of dual education was taken into account when drafting the law.

Until the entry into force of the Law, the way of organizing and conducting technical professional training programs through dual education were established in the Regulation on the organization of technical professional training programs through dual education, approved by Government Decision no. 70 of 22 January 2018, which will possibly be repealed, because a large part of the rules can be found in the Law.

Through the intervention of the new Law, the basic problem is to be partially solved, which aims to reduce the impact on the reduction of the level of employment and the shortage of qualified labor. The problem of labor shortage in the national economy results from the following findings:

- The Republic of Moldova registers the lowest employment rate compared to the EU states and those in the region - only 42% of the country's population is employed. According to EU policies, an employment rate of 50% is considered a high risk for the country's economy.
- Informal employment shows an increasing trend. About 39% of the employed population is informally employed (self-employed, informal employment, employed in households for own consumption). In the last 5 years, the number of informally employed people has increased by about 30%. This situation reduces the share of formal employment. Under these conditions, the phenomenon of "black work" and "envelope wages" develops.
- During the year 2022, according to the statistical data of ANOFM, about 11182 vacant jobs are registered. In this sense, there is a slow reduction in the supply of labor, against the background of an increase in the demand for labor.
- The reduction in labor supply is generated by demographic problems, massive migration of young and qualified labor. Demographic decline means that fewer and fewer young people enter the labor market. The major risk that can be identified in the coming years is generated by the continuation of the labor force exodus, in particular, in the countries of the region (Romania, Poland), which in turn face enormous labor force deficits. The largest absorption of labor force from the Republic of Moldova is expected to be in Romania.
- The reduction in the labor supply, especially the skilled one, denotes the harmful impact on the national economy. As a result, a contradiction is registered: the reduction of labor productivity (labor efficiency), the added value in the economy and the increase of labor costs (employers are forced to raise wages).

All these problems mentioned above can generate essential problems for the national economy in the coming years. Therefore, it is necessary to develop a set of measures that will contribute to the development of an attractive labor force training system. Under these conditions, the Law on dual education ensures the legal framework necessary for the large-scale development of dual education, which will partially ensure, together with traditional professional education, the labor market with qualified personnel.

In accordance with the provisions of art. 11 of Law no. 110/2022 the Chamber of Commerce and Industry is assigned a series of powers, including:

- the activity of support and monitoring of dual education;
- the establishment of a committee to verify the unit's compliance for participating in the professional training process through dual education;
- drawing up and managing the register of units in dual education;
- other duties and responsibilities [2].

In this sense, the Law establishes the keeping of records of economic units involved in dual education by the Chamber of Commerce and Industry, which, according to the law, ensures the activity of support and monitoring of dual education.

Practice shows that not all units involved in dual education have sufficient resources, especially human resources, to realize the implementation of dual education. As a result, after the

initiation of the dual education program, various situations appear, which sometimes even lead to the termination of the partnership between the educational institution and the economic unit, which has a negative impact on the students.

In order not to admit such situations, the Law provides by art. 19 verifying the unit's ability to satisfy the conditions for organizing the professional training program through dual education and the generic and professional skills according to the criteria regarding the unit's compliance for participating in the process of professional training through dual education [2].

The financing of dual education is ensured from the state budget. The vocational technical education institution, based on the financial resources allocated according to the Education Code, ensures the necessary conditions for the professional training of the student. The expenses of the unit, incurred for the organization and realization of dual education, are subject to compensation from the state budget, in a proportion of no more than 50% of the expenses allowed for compensation, in accordance with the normative acts of the Government.

Considering the positive impact of dual education on the quality of the workforce, the Ministry of Economy is planning for the years 2023-2025, financial means of at least 10 million lei to support economic agents, which participate in the implementation of dual education. In this sense, in accordance with the provisions of art. 20 paragraph (3) of the Law is to be elaborated and implemented by the Government, the compensation mechanism from the state budget for the expenses of economic agents involved in dual education.

The new Law includes rules of a primary nature regarding the principles, the organizational procedure, the participating parties, their rights and obligations within dual education, or this fact will lead to the univocal interpretation and application of this institution, removing some confusions that previously existed in the legislation.

The efficiency of the educational process and work practice within the educational institutions will allow the introduction of new disciplines to ensure the labor market in the Republic of Moldova with qualified specialists in the existing fields of activity and in new ones.

The perspectives of the organization of dual education in the Republic of Moldova in accordance with the new legislation assume a series of benefits for students: professional training in a real work context based on the equipment within the unit/economic agent; social package offered to students from vocational technical education through: payment of the scholarship, accommodation in the institution's dormitory, for secondary vocational technical education - free food; professional training remuneration, the size of which cannot be lower than the guaranteed minimum amount of the salary in the real sector; greater opportunities for employment and career advancement.

At the same time, dual education is also advantageous for economic agents who have the opportunity to participate in the training of the workforce in accordance with their own needs; to select students in the process of conducting the admission competition; participate in the assessment of students' skills upon completion of the professional training program; to select the best candidates after the completion of the training period, with a view to employment.

The adoption of the new law on the organization and proper functioning of dual education obviously represents a step forward in the effort to identify viable solutions for the many problems faced by both technical vocational education and economic agents in securing the workforce.

Relevant experiences regarding dual education in the Republic of Moldova

The first commercial company that created dual education programs in the country was DRA "Draexlmaier Automotive" S.R.L. Germany, which deals with the production of electrical wiring for automobiles, started to operate in Balti based on the collaboration with the local vocational school. Dual education piloting was carried out on the basis of a contract between the economic agent and the Ministry of Education and Research of the Republic of Moldova.

The number of students in dual education gradually increased from 29 students in 2014-2015 to 1355 students in 2018-2019, after which, in the following periods, the number of students decreased. (Table 1).

Table no 1. Students trained in the dual system

The year of studies	Pupils Apprentice
2014-2015	29
2015-2016	107
2016-2017	280
2017-2018	661
2018-2019	1355
2019-2020	938
2020-2021	986
2021-2022	958

Source: developed by the author

Starting with the 2018-2019 academic year, the dual professional training takes place within:

- secondary technical vocational training programs;
- post-secondary technical vocational training programs;
- non-tertiary post-secondary technical vocational training programs.

By 2020, over 160 economic agents from the whole country are training qualified staff through the dual system in over 40 programs from about 15 fields of the national economy. The range of occupations is annually diversified based on the needs expressed by the business environment and later found in the state order. Thus, annually out of about 8000 available places, 10% are intended for dual education with funding from the state budget. In the period 2016-2020, 5300 places were subsidized from the state budget for the dual programs, and 4100 apprentices were enrolled in the dual programs. More than 60% of the graduates of these programs are employed and remain active in the companies where they completed the practical training, receiving an average salary during the dual professional technical studies of around 1600 lei per month. [5, p.108]

It should be mentioned that starting from 2018, dual education is applied in our country through the project "Support in the promotion of vocational technical education for a green economy" implemented by the German International Cooperation Agency (GIZ) with the financial support of the Federal Ministry for Cooperation Economic and Development of Germany (BMZ) and the Swiss Cooperation Office (SDC).

As part of the project, a Guide was developed regarding the organization and implementation of dual education programs for economic agents, with the aim of informing

economic agents interested in developing their human resources through the implementation of technical professional training programs through dual education.

The fields of training through dual education are established by state order, for example, for the 2021-2022 academic year, the following were selected: Business and administration, Social assistance and counseling, Craft qualifications, Construction and civil engineering, Electricity and energy, Electronics and automation, Manufacturing and processing, Horticulture, Pedagogy and the science of education, Hotel services, restaurants and catering, Production of agricultural crops and animal husbandry, Information and communication technology, Telecommunications, Forestry, Health, Wholesale and retail sales, etc.

Based on the intentions expressed by economic agents and the training needs identified, the number of places offered in the dual professional education system for the 2022-2023 academic year was increased to 1147 students and 26 institutions, respectively.

The successful operation of dual education involves the sharing of responsibilities between public actors and private participants. If the former provide the necessary framework for the functioning of the school from an administrative point of view and the human resources involved in the educational process, the latter are involved mainly through financial support and through the transfer of know-how specific to the management model at the company level. The involvement of economic agents in the financial and logistical support of the school, as well as the provision of practice hours and, later, a job for each student, are considered the measurable results of the quality of the standards specific to professional education based on the dual model.

The advantages of dual education can be observed by following the professional path of dual education graduates from the 2021-2022 promotion, which showed an employment level of over 70% in companies in the Republic of Moldova (Figure 2).

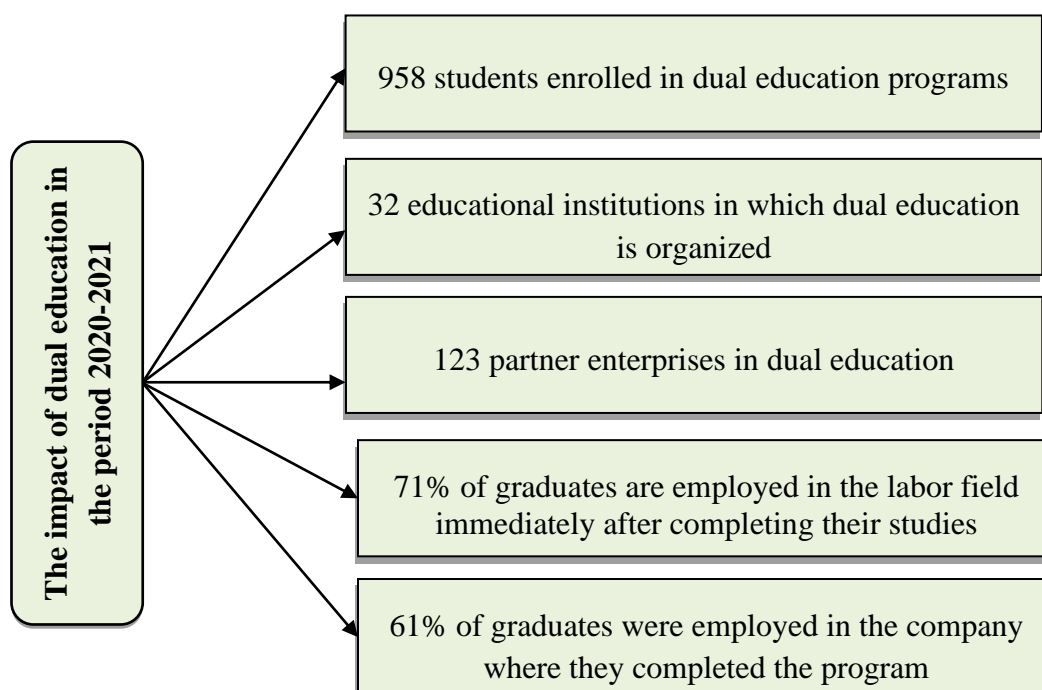


Figure 1. Dual education 2021-2022

Source: Ministry of Education of the Republic of Moldova

The possibility of employment in the profession for which the students have prepared, immediately after graduation, directly with the employer with whom the students had a practice contract, represents a mechanism for inclusion and adaptation of the skills required by the labor market and a competitive advantage for educational institutions, as providers of highly qualified workforce [4].

The advantages of dual education for the enterprise refer to:

1. Access to qualified personnel. Highly qualified staff in some specific fields can be trained within the company, in partnership with the vocational technical education institution (VET institution) in the profile. As a result, specialists trained in this way will have not only theoretical knowledge, accumulated at the educational institution, but also practical skills, obtained within the company, in the process of working with the modern machines and equipment, made available by it, under the supervision of foremen-instructors .
2. Loyalty to the company, low staff turnover. During the apprenticeship period, the student not only learns the trade, but also integrates into the team, joins the corporate values and culture, so that upon graduating from the program, young people are more loyal to the company, thanks to the reliable credit and the support offered by the company during the studies . Even if they are free to choose to work at another enterprise after graduation, young people will rather decide to work at the enterprise they know and where they have become part of the team.
3. Reduction of recruitment and integration costs of qualified employees. Recruiting qualified employees is a costly and uncertain process. In contrast, the training of young specialists through the dual system provides the company with a degree of security and reduces recruitment costs, avoiding the risk of hiring an unsuitable candidate from outside.
4. Recovery of investments in dual education. The initial expenses for the training of the apprentices are repaid to the extent of obtaining highly qualified, motivated and loyal staff. Depending on the specifics of the trade or specialty, the costs for training apprentices can be compensated by the income generated as a result of their activity within the enterprise. For example, the experience of "Panilino" confirms that, after the first 7 months, apprentices have a yield of 50%-70% compared to the rest of the employees. Added to this is the tax deductibility of training costs.
5. Positive image in society The experience of Germany, Austria and Switzerland shows that enterprises involved in dual vocational training enjoy a positive image and respect in society. The implementation of dual education programs is perceived by society as proof of high social responsibility due to the support offered to young people.
6. Healthy competition within the enterprise. Young people are the ones who bring a new impetus to the enterprise. They are more friendly to modern information technologies and media, more proactive and come up with new ideas and approaches to automate processes, improve quality, innovate, etc. Meanwhile, experienced employees tend to keep up to keep up with the competition for jobs [10].

For the successful implementation of dual education in our country, it is necessary to inform the public (students, economic agents) about the advantages of this education system as widely as possible. An important role in the promotion of dual education was played by two large communication campaigns: "Jobs you like - future assured", project implemented by the European Union during 2017-2018.

The second promotion media campaign was "Learn, Work, Earn", launched during the admission period for 2018-2019, with the support of the project "Support in the promotion of technical vocational education for a green economy" implemented by the Agency for International Cooperation of Germany (GIZ) with the financial support of the Federal Ministry for Economic Cooperation and Development of Germany (BMZ) and the Swiss Cooperation Office (SDC). As part of this campaign, fairs are organized in different cities of the country (Balti, Soroca, Cahul, Chisinau), with the generic "Dual Education Day", which are attended by students-apprentices, who study in the dual system, but also students from gymnasiums and high schools, in front of whom students from the dual education system share their experience and the advantage of combining work at a company with studies at a college, center of excellence or a professional school.

The practices of dual education in the Republic of Moldova demonstrate that this alternative form of professional technical education has a significant positive impact on the promotion of employment among young people and is one of the solutions for reducing the level of unemployment among young people.

The relevance and success of the dual education system in Germany is explained by the robust economic development of the country, which constantly requires qualified labor and good specialists in the most varied fields. And the statistics that follow give us a clear picture of the dual system in Germany.

About 450,000 of the companies (over 20%) provide dual training for about 500,000 students trained annually; More than 50% of Germans have successfully completed a dual cooperation program; The employment rate of dual education graduates is 95%, which is higher than the rate of graduates outside professional or academic education - 80%. The impact on the economy can be deduced from the following statistical data: 1600 state schools provide dual learning; SMEs have increased competitiveness on the international market; The level of unemployment among young people is lower - approximately 7.0%, being the lowest rate in the EU, while the average of this index in the EU is 20.0%.

Unfortunately, dual education in Moldova is functional only in economically developed regions, where there are more companies with foreign capital, coming from countries where the involvement of economic agents in professional education is a tradition. The large-scale development of professional education in the dual system depends on the economic development of the country.

The National Agency for Employment of the Republic of Moldova annually prepares the short-term labor market forecast, which aims to anticipate labor market requirements and reduce the gap between the training offered by educational institutions and the needs of economic agents. Thus, according to the 2022 Forecast, employers recommend the need to intensify the practical training of graduates, as well as the need to adjust professional training in accordance with new technologies.

In the perception of employers, the discrepancy between the professional training offered by educational institutions and the requirements of the labor market is caused by the following three basic aspects:

- insufficient practical training;
- lack of collaboration with employers in understanding the needs of training skills and adjusting professional training to new technologies;

- the insufficiency of adapting professional training to the requirements of the labor market, a fact that indicates the modest character of the dialogue between educational institutions and economic agents [12].

The labor market faces a shortage of highly qualified personnel, not only in terms of labor professions, but also of specialties with higher education. Although the national legislation does not provide for the application of dual education in the higher education system, specialists believe that there is an untapped opportunity to combine the development of theoretical knowledge with the formation of practical skills in real business environments for the training of specialists with higher education. For example, the author Wilfried Hesser believes that the essence of dual study in higher education is based on two places of learning: the educational institution and the enterprise. Higher education institutions mostly conclude cooperation agreements with businesses. In addition, enterprises conclude training and learning agreements for the duration of the course of study with students participating in the dual system [6].

The implementation of the dual system in higher education can present multiple benefits for all stakeholders involved: students, economic agents, universities, the state [5, p. 108].

In the context of the above, we mention that recently, in Romania, the Government approved, through Emergency Ordinance no. 128/2022 amending and supplementing the National Education Law no. 1/2011UG, the legislative framework necessary for the expansion of dual professional education at the university level.

In the Republic of Moldova, although the legal framework still does not provide for dual education in the higher education system, there are still universities that have begun to apply this form of specialist training. For example, the Academy of Economic Studies from Moldova is the first university with an economic profile in the country to implement the dual education model, within the "COOPERA - Integrating Dual Higher Education in Moldova and Ukraine" project, co-financed by the Erasmus+ program of the European Union. The dual education at ASEM will be applied within the "Business and Administration" and "Applied Informatics" study programs.

The training model was chosen after consultation with the representatives of the companies participating in the project. It assumes: 60% of the total number of study hours will be spent at the institution, and 40% - at the enterprise. In this way, all lectures will take place at the university, being taught by tenured professors and by specialists selected from the business environment. Seminars and laboratory lessons will be divided. One part will be done at the university, and the other part - within the economic units, the students being financially remunerated during their studies.

At the same time, the participation of economic entities in all stages of the realization of dual higher education is foreseen: the elaboration of educational plans, the selection of potential students even from the first year of studies and the training of professional skills in the real work environment; providing students with a salary for the entire training period; the active involvement of students in solving the entity's real problems; employment of graduate students at the respective entity.

In this way, students will accumulate not only theoretical knowledge, but also practical skills, because they will learn in real working conditions and will gradually adapt to the organizational culture and the labor market, being, at the same time, remunerated.

It should be noted that, in general, one of the main goals of Erasmus+ capacity building projects is to take the experience of European universities and implement it with strict adjustments

in the institutions of the Republic of Moldova, thus, the launch of the dual higher education pilot program is a challenge and at the same time an innovation for higher education in the country. However, for the launch of higher studies in dual format at the level of the entire country, it is necessary to modify the domestic legislative framework, which also regulates dual higher education, following the example of Romania.

Finally, dual higher education is a serious way to bring universities closer to the realities of the socio-economic environment.

3. Conclusions

One of the problems that led to the imbalance on the labor market and the labor shortage is conditioned by the weak interaction between the professional training system and the actors involved in the hiring process. This is amplified by a low level of anticipation of jobs and the necessary competence for the priority areas of economic development, as well as the lack of involvement on the part of local public authorities.

Under these conditions, we consider that professional education in the dual system becomes very important, given the fact that it offers young people both theoretical knowledge and practical experience, and economic agents - qualified staff.

For seven years, the Republic of Moldova benefited from support from Germany and Switzerland for the development of dual education, obtaining impressive results: 71% of dual education graduates found work immediately, compared to 43% of the technical education system. Given the fact that the Republic of Moldova adopted the Dual Education Law, this is a factor that speaks of the serious intention of all parties involved to develop dual education on a large scale.

We need three important conditions for young people to be able to contribute to the development of the country: a favorable environment for investments in creating jobs, economic agents to invest in our country and qualified people, or the good functioning of dual education in the Republic of Moldova depends, largely due to the economic situation in the country.

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