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## **DUAL EDUCATION: EUROPEAN EXPERIENCE ADOPTION FOR STRATEGIES OF INTEGRATED URBAN DEVELOPMENT IMPLEMENTATION IN UKRAINE**

The current situation in the vast majority of Ukrainian cities is characterized by sufficiently large quantity of unsolved issues: economic development, demography, environmental cleanliness and security, social and spatial decision, etc. How flexible a city can respond to new challenges and plan long-term sustainable prospects depends on the success of its development and prosperity in the future. Consequently, modern cities in Ukraine need a comprehensive approach that involves solving new problems and the most pressing problems, examines the needs and requirements of all spheres on the principles of equality and attracts politicians, businessmen, investors, civil society, city residents to these processes.

The strategy of integrated urban development for the near future, embodied in the Concept of Integrated Development of the city, is an instrument that can be adapted to the challenges of the present and enable Ukrainian cities sustainable development. While designing strategy of integrated urban development, an approach is considered that addresses the interconnection and interdependence between different spheres of urban life. It enables the location and adoption of exact focused optimal planning solutions for long-term urban development, their coordination with higher-level programs and strategies. The approach enables optimally utilizing the existing potential in terms of obtaining the maximum effect from intersectoral interaction synergy.

In the EU, planning for an integrated urban development is quite common, and other countries of the world have recently started to implement it actively. Despite the variability of economy and population demographics structure in different regions, the model of a spatially compact,

multifunctional, socially and culturally integrating European city best suits the requirements of sustainable urban development. The "Leipzig Charter for a Sustainable European City", adopted in May 2007, states that sustainable urban development must ensure economic prosperity, social balance and healthy environment. According to the Charter's recommendations, integrated development policies implementation will enable cities to use limited resources efficiently and to focus on areas in need and disadvantaged areas [1]. The use of integrated development approaches will contribute to achieving the goals of the United Nations Sustainable Development Agenda for the period up to 2030, which are currently facing the countries of the world as the most important benchmarks for the coming years.

The project "Integrated urban development in Ukraine" is implemented by the German government company "Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH". Today Lviv, Chernivtsi, Vinnytsya, Zhytomyr, Poltava and Podilskyi districts of Kyiv take part in it. The project is funded by the governments of Germany and Switzerland and aims at achieving the goals of international cooperation for sustainable development. The priority areas for Germany's cooperation with Ukraine are: effective state governance, energy efficiency, sustainable economic development.

An integral part of the city's inter-city development strategy is the economic component, which implies the usage of all the city potential to enable its sustainable development. However, an efficient city economic development can not be ensured without high-quality, competitive labor force availability that meets innovative economy needs, contributed not only to economic prosperity, but also to human potential realization and city's inhabitants needs maximum satisfaction.

Almost every city in Ukraine has a sufficient quantity of different accreditation levels educational institutions. However, it can now be said that the opportunities of educational institutions are somewhat limited, which negatively affects qualitative and quantitative results. The quality of transition to economy higher level depends on the ability of society to enable development through building effective cooperation between education and business for the welfare of the local community, the ability to send the best achievements of science and education to implement them, to create more qualitative competitive local product. Therefore, it is necessary to stimulate the active education cooperation with production, to enable a strong link between educational institutions and the national economy in the terms of authorities and local self-government full support.

As European Union developed countries experience shows, the most successful form of realization the set tasks is the dual education system introduction, which in the 60's of the last

century was initiated by Germany, which still serves as an example for all the countries of the European Union.

The dual system was seen as a new, more flexible form of vocational training organization. In Germany, they calculated that in order to obtain theoretical knowledge, the student had enough 1-2 days of theoretical training per a week. The rest of the time is better to work at the enterprise. Dual education as a way of teaching was in the ratio of 50/50 theory in the educational institution and practice in the production. This German system, which unites a public vocational school with productive training, has taken as a model and used by many countries to reform their own education systems [2].

Today education dual system has been implemented in almost 60 countries of the world. Employers and educational institutions work together in Austria, Switzerland, and Denmark. The experience of developing educational systems in countries such as Sweden, Great Britain, Germany, Japan points to the need to integrate the educational process and practice, which is the basis for high-quality qualified specialists training.

It should be noted that dual education in Germany is regulated by the relevant Laws and Regulations on vocational training. These documents establish the terms of study, the rights and responsibilities of students and people responsible for vocational training, as well as the content of training.

In Germany, while studying, every student has the right, in accordance with the Law on vocational training, to obtain wages and the amount must be sufficient. The size of the wages depends on the profession and is often fixed by the tariff agreements.

The way how learning is regulated in specific cases is determined by the learning agreement. In Germany, education and examinations are monitored by authorized organizations such as the Chamber of Commerce and Industry (IHK), the Chamber of Commerce (HWK).

During professional training, students are required, if provided for by the Provision on vocational training, to pass intermediate examinations in authorized organizations. They send an interim exam invitation. By means of an intermediate exam, an enterprise and a vocational school determine the student's level of knowledge. The result should be taken into account during further training. Upon termination of vocational training, a final examination, which is also usually organized by the trade and industrial or handicraft chambers, is completed. Training is considered complete after successful passing the final exam [3, 4].

Professional education and training in Denmark is based on a dual system and a model of apprenticeship. This system offers over 100 different types of vocational education. Most of the programs are practical training in the chosen company. Vocational education and training programs

are supplemented by a student test, or a similar exam that tests professional knowledge, skills and competences.

In Denmark there are production schools (about 80) that are intended for young people who have not completed their youth education programs or are not ready to start regular youth education. Production schools are based on practical work in workshops. The purpose of the training is to increase the personal development of students and their chances in the education system and in the labor market. The educational option is organized taking into account the fact that students will receive a qualification that let them complete vocational qualification educational programs.

Production schools are funded mainly by the state through a system of subsidizing taximeters in the form of grants to cover the operational costs of training [5].

Spanish dual education projects (Dual FP) combine teaching and learning processes in the company and are characterized by alternating hours or days of stay at a company and an educational center.

Due to this model, companies can support new methods in organizing vocational training that seek to find advantages in company-centered relationships and promote their corporate social responsibility.

Professional training offers over 150 training cycles in 26 professional fields with theoretical and practical content relevant to various professional fields.

Each professional industry offers:

- Basic vocational training courses that provide the appropriate basic professional level are compulsory and free courses;
- Cycles of intermediate level training, which provide the level of "technology" and are part of vocational secondary education;
- Higher-level training courses that provide the level of a senior technical specialist that is part of higher education.

The qualifications obtained during the training cycle have official status and the same academic and professional significance throughout the country.

Training at work centers (FCT) is a compulsory professional module that is taught in all vocational education and training courses, both basic and secondary, and higher. It is practical training stage in the company that takes place in the company's real environment and, as a rule, after passing all training cycle professional modules. The professional training module at work centers has the same structure as other modules, which implies professional training cycles, and its passing is obligatory for obtaining any professional education degree.

Students are appointed by the tutors at the educational and work center, who determine the training program to be performed by the student, appoint a visit date, coordinate its development

and evaluate it. The professional module is developed in the company, so the student will be able to observe and perform the functions and options of various positions in the professional profile and know production processes organization, as well as labor relations. The professional module assessment is intended to determine that the student has acquired the general competence of the chosen degree on training a professional module results. Evaluation criteria will serve to establish the professional level of the student after completing the learning process [6].

The dual education system in Switzerland means studying in a company or in a company combined with the completion of a vocational school. A vocational school can be completed only if there is a valid training contract with an educational company. Thus, dual education is an education, as is customary in Switzerland after completing compulsory education. However, the term "dual education system" should also be understood as an additional vocational education oriented to career growth. Thus, dual education can also be applied at the level of higher education [7].

In Finland, vocational training is intended for young graduates and for working adults. A professional bachelor's degree can be completed either as a basic professional qualification that leads to an appropriate degree or as a diploma exam. Professional training is organized in educational institutions and internship establishments (firms, enterprises, companies). The Ministry of Education and Culture of the country forms the appropriate legislative framework for vocational training, performs the function of public administration and control. For the organization of studies, the Ministry of Education and Culture issues permissions and tasks for companies to teach students, which is included in the relevant license [7].

Consequently, the system of dual education is a combination of work and education when a young specialist is trained at a training institution together with an enterprise. The company determines the specialty required for it and orders the institution of education. A student combines training and internship at the enterprise. At the same time it receives a scholarship close to the salary. Dual education is most appropriate to be considered for applied specialties related to production, but it is also relevant for the higher education system.

The main task of dual form of training introduction elements is to eliminate the main disadvantages of traditional forms and methods of training future qualified specialists, to bridge the gap between theory and practice, education and production, and to improve the quality of training skilled personnel taking into account the requirements of employers in the framework of new organizationally distinct forms of training.

In the course of the project "Development of European approaches and methods for dual learning" (DEWBLAM) a European-wide dual education platform was developed in higher education and vocational education institutions, which stated that:

1. Dual study at a higher education institution can be defined as a combination of formal education and non-formal or informal empirical learning obtained at work and through work.

2. Dual education can be integrated into the student's personal and public capital, and can be assessed at the level of competences or qualifications in accordance with the 6, 7 and 8 levels of the European Qualifications Framework.

3. Dual study makes higher education viable, enabling it to respond responsibly to the social demands at dynamic labor markets, lifelong learning and new cross-disciplinary knowledge sectors by providing educational and research opportunities for adult students, thereby improving and facilitating continuous professional development; increasing the value of learning, providing benefits for companies, public and private institutions and organizations, or meeting their strategic goals; strengthening innovation in higher education and lifelong learning policies [8].

The key positive elements of dual education system implementation are:

- Business, science, education and government cooperation organization;
- The legislative basis for the recognition of national standards for the quality of vocational education development;
- Teaching students during work activities;
- Qualified production personnel involvement to the teaching staff (instructors, tutors);
- Institutional research implementation and counseling (monitoring the quality of providing educational services in the field of vocational education, updating educational standards);
- Taking into account the specific enterprises requests to vocational education content and quality.

Currently, the Concept of training specialists in dual form of education is adopted in Ukraine, which defines the main problems in the educational sphere, the ways to overcome these problems, the purpose and timing of the Concept implementation, the rights and obligations of all participants in the dual education system, the expected results, the criteria for achieving the expected results for all participants in the system of dual education, amounts and sources of funding. The concept is based on the German experience of the dual form of education that was presented, particular, through the Representation of the Friedrich Ebert Foundation, the German-Ukrainian Agri-Policy Dialogue, Eastern Partnership Project "Dual Education in Dialogue" with various levels educational institutions participation. The purpose of the Concept is to elaborate the principles of state policy on improving specialists' vocational training quality based on the dual form of education.

Summarizing the European experience of implementing dual education system, the Concept highlights the following problems of effective dual education implementation in Ukraine:

- Graduates unpreparedness to work in a specialty;

- Labor market dissatisfaction with the quality of education, which leads to the need for additional training in the workplace, training system expansion at enterprises;
- Low level work of educational institutions, including the inefficient use of budget funds, as evidenced by the excessively high share of educational institutions graduates that do not work (often do not plan to work) according to their professions;
- Ineffective best time usage to obtain professional competences education by applicants;
- Requirements establishment for educational institutions graduates independent professional activity experience (work experience), which are arranged for work for the first time.

Overcoming these problems is assumed by implementing a set of measures for mutually beneficial relations models development between educational institutions and employers aimed at enabling education applicants practical training for independent professional activities and their social adaptation in labor collectives, normative and legal and organizational support, conducting approbation, research, refinement models and recommendations for widespread use.

- The concept defines such basic rights and responsibilities of the main participants in the educational process.

Educational institution:

- Provides theoretical training, the integrity of the educational curriculum, compliance with educational standards and professional standards, is responsible for the quality of applicants education;
- Has the right, in conjunction with the employer, to determine the educational programs, which organize the educational process by the dual form of education;
- Is responsible for establishing cooperation between the educational institution and employers, as well as further effective communication between the parties;
- Conducts selection of enterprises, institutions and organizations providing places of practical training on the dual form of education;
- Together with the designated employers, develop and approve the curriculum of the relevant educational program;
- Together with certain employers, ensure coordination of the theoretical and practical part of the program;
- Coordinates the education of the applicant at an enterprise and, together with the representative of the company, receives a report on the results of the training according to the dual form of education and evaluates the results;
- Adopts relevant internal documents, appoints individuals / units responsible for implementing the dual form of education;

- Arranges the discussion of the educational program (programs) according to the dual form of education in the specialism (profession) with employers / professional associations on the subject of compliance with professional standards and requirements of employers to the competences of future specialists.

Employer:

- May initiate cooperation with the educational establishment in order to train specialists for the dual form of education, including initiating creation of dual education programs;
- Enables labor protection observance requirements established by the legislation;
- Together with the educational institution takes part in the development and approval the educational programs and curriculum;
- Participates in the selection of education applicants for dual education;
- Conducts a permanent dialogue with the educational institution and the student on the stages and results of the training by appointing the person responsible for cooperation with the educational institution by the dual form of education;
- Assesses the educational results together with the educational institution according to the educational program;
- Provides a work place for an education applicant at an enterprise, institution or organization, which involves a cash reward;
- In accordance with the law, it establishes a qualified worker for applicants' education;
- Provides the necessary resources and information materials for the work, creates the necessary conditions and opportunities for the applicant to complete the curriculum;
- If necessary, creates conditions for increasing the professional level of the employees, who provide educational training in the workplace;
- In conjunction with trade unions or their associations, the issues of labor conditions, introduction and determination the amount of allowances, surcharges, bonuses, rewards and other types of material and moral encouragement for employees engaged in educational workers training at work are solved.

The student must:

- Responsibly fulfill the curriculum in accordance with the curriculum schedule in accordance with the goals and objectives of studying in the workplace;
- Observe the rules of the internal labor regulations at an enterprise, institution or organization;
- To maintain contact with the person responsible for the educational program of the dual form of education implementation, to inform the employer and the representative of the educational institution in a timely manner in the case of problematic issues;



- Observe the rules of labor protection, industrial sanitation, occupational health and fire protection;
- Have material liability for equipment and property in accordance within the concluded agreement;
- To carry out in a timely manner at the proper level the tasks entrusted during training in the workplace and individual tasks according to the curriculum.

Implementation of the Concept is provided in three stages:

Stage I - The development of a legal framework for dual form of education implementation in whole (2018 and 2019);

Stage II - Typical models development of the dual form of education in educational institutions, implementation of pilot projects models of dual forms of education, performance evaluation (2019 and 2020);

Stage III - Clusters creation of dual education based on competitive educational institutions and interested employers - enterprises, institutions, organizations, including those belonging to the sphere of state governance authorities (2020-2023 years).

The expected results of the Concept will be:

- Expansion and improvement of the practical part of the program with the preservation at a sufficient level of theoretical training;
- Enabling the interconnection and interaction of different systems (education and production, education and science and science and production) to implement important changes aimed at improving the quality of education;
- Improving specialists' training quality in accordance with the real requirements of the labor market and ensuring qualified specialists training for the national economy;
- Strengthening the role of employers and public associations in the training of qualified specialists from educational programs content formation to learning outcomes evaluation;
- Content education modernization in order to bring it in line with the modern content of professional activity;
- Raising the level of educational institutions graduates competitiveness in the terms of globalization and promoting youth higher employment;
- Reduction of educational institutions graduates adaptation period to professional activities;
- Qualification characteristics / professional standards development / updating;
- Increasing students' motivation to study.

The criteria for achieving the expected results are:

for educational institutions:

- Increasing the educational institution competitiveness in the educational services market;

- Availability of up-to-date information on the professions development current state and types of economic activity, when educational institution trains specialists;

- Improving education quality through the educational programs adaptation to the employers requirements;

- Opportunities expansion for applied research;

- Expand the opportunities for teaching staff advanced training;

For the applicant:

- Combination of theoretical knowledge gained with practical experience in one or more enterprises, institutions or organizations;

- Increase the chances of getting a permanent job right after graduation;

- Availability before the end of the training necessary work experience for further professional growth, as well as the realistic vision of the own career path;

- Obtaining practical experience during training and the possibility of obtaining a monetary reward in the course of studying;

For employer:

- Influence on the process of training a specialist with the necessary knowledge, skills and competencies;

- Obtaining qualified specialists who are ready to work at the appropriate level without additional costs for initial familiarization with work processes at an enterprise, institution or organization or for retraining;

- Selection and invitation (at the time of training) the most talented trainees to work after graduation [9].

The Concept adoption of training specialists by the dual form of education, in our opinion, can have a significant impact on the integrated development of Ukrainian cities. As already mentioned above, the introduction of dual education system is capable providing the qualitative and, above all, necessary for the sustainable development of the economy, vocational education, improving the quality of life and the well-being of the inhabitants; will enable to solve the strategic tasks of integrated urban development in whole. Confirmation of it is that, for example, the "Integrated Development Concept" Poltava 2030 approved by the development of "Diversified Economy" project is the project "Introduction of the system of professional dual education". The main tasks of the project are: analysis of trends and the market of vocational education in Ukraine and needs of European countries; development and implementation a pilot project of the dual system in vocational education for certain types of specialties; coordination with the regional administration; professional education projects attraction from international donors; appropriate premises provision; tracking results, disseminating experience. It is expected that the integration of

vocational education and production will be ensured; the labor market is provided by qualified personnel under available work places with decent wages; the attractiveness of the city and other factors of its economic growth, social prosperity, and environmental security will increase [10].

Consequently, the European experience of using the dual education system which should be adopted by Ukraine has some benefits for all stakeholders.

Youth, for which the system of dual education implementation is relevant first of all:

- Gets professional skills and skills for further work, career and professional growth;
- Has the opportunity to receive wages during professional training;
- Studying in real production conditions, on technological equipment, observing industrial relations within the enterprise;
- Identifies themselves with the chosen specialism and the enterprise where it operates;
- Qualifies for future work and opportunities for further educational development.

Employers, in turn, receive:

- Competent specialist who fully meets the requirements of an enterprise that has already been adapted to the production process (in comparison with third-party candidates);
- Increase the productivity and quality of products, works or services provided by the enterprise;
- Greater return on capital invested by the results of their educational efforts in the medium term;
- Participation in the development of standards for vocational education;
- Savings on staff recruitment and retraining costs;
- Business social responsibility formation.

Authorities and local self-government:

- Receive political benefits thanks to the positive impact of dual vocational education on the economy and society;
- Satisfy the need for business with specialists in their participation;
- Establish communication between the authorities, business and education in the city;
- Have a real opportunity to influence the modernization and improvement the educational process in accordance with the needs of the city economy;
- Can effectively manage vocational education and enable its quality;
- Monitor the economic situation and shape the future needs of specialists for the development of the city's economy and high-quality labor market.

The city receives:

- Powerful economy and competitiveness growth;

- Supply and demand balance on the labor market, reducing unemployment and outflow of labor;
- Demographic situation improvement, social infrastructure development;
- Social and economic integration of the inhabitants, first of all, young people, in the structure of the city;
- Attractiveness and comfort of living increase.

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