

6th International Conference on
Design, Simulation, Manufacturing:
The Innovation Exchange
June 6-9, 2023 | High Tatras, Slovak Republic



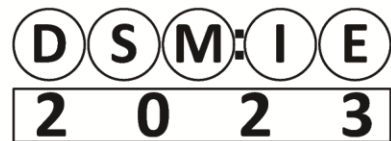
Dual Educational System of Professional Training of Future Skilled Workers

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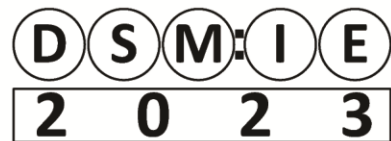


1 Introduction and Major Challenges

Ukraine is already actively introducing elements of the dual form of education into the professional training of future specialists and building its dual education system which has certain features.

Those include:

- strengthening the practical component of the professional training of future skilled workers in the dual form of education;
- intellectualization and individualization of vocational training;
- implementation of vocational training in the conditions of real production;
- development of social partnership in institutions VET schools;
- professional compliance training skilled workers with regional infrastructure; introduction of the institution of mentors;
- creation of an innovative educational and production environment in institutions of VET schools



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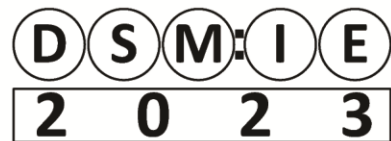


2 Aim and Research Tasks

The article aims to describe the algorithm for professional training of future skilled workers in dual training

Research tasks included

- revealing the main ways for design of professional training for future skilled workers in dual education;
- proposing the coordinated interaction between the educational and industrial spheres of training qualified personnel with a certain profile within the framework of different organizational forms of education;
- offering the steps to eliminate the main shortcomings of traditional teaching forms and methods, to bridge the gap between theory and practice, education and production, and to improve the quality of qualified personnel training, considering the requirements of employers within the framework of new organizational forms of training.



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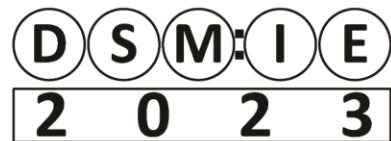
3 Research Methodology

included the following methods

- analysis (scientific sources, qualification standards, educational and professional programs, reports on the educational process at VET schools);
- synthesis (research and systematization of the dual system features for professional education);
- generalization of the experience, problems and perspectives for the development of dual professional education

was based on the

- principles of connection between theory and practice, projectability, individualization;
- approach for competency-based and work-based learning (WBL).



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4 Results

Justified structural components of the dual form of education should be based on:

- organization of cooperation between government, business and social partners;
- development of a legislative framework for the recognition of national standards for the quality of vocational education;
- in-service training for students;
- involvement of qualified production personnel in pedagogical activity (instructors, teachers);
- implementation of institutional research and consulting (monitoring the quality of the provision of educational services in the field of vocational education, updating educational standards).

4.1 Social partnerships

The significant positive influence on the professional training of future skilled workers in the dual form of education at VET schools is made by the development of social partnerships.

With its help at VET schools, opportunities are created for the timely detection of

- changes in production technologies and labor organization,
- requirements of employers for professions,
- new labor functions, and necessary competencies,
- functional analysis of professional activity.

The effective vocational education system is a partnership between VET schools of this professional community's relevant profile and social groups.

Suggested cooperation methods: taking into account the interests of partners, significant values, use of methods of extreme support, significant action, variable and cross proposals, method of mediation etc.

4.2 Development of a legislative framework for the recognition of national standards for the quality of vocational education

There are many gaps in the regulatory field, which should regulate the development of social partnership, namely:

- functions and responsibilities of business entities as social partners of VET schools are not defined, the independence of VET schools are not ensured in development, together with employers, training and planning documentation;
- there are no mechanisms to stimulate and motivate business entities to cooperate with VET schools on the professional training of future specialists in the dual form of education;
- relevant documents that could allow to increase professional competence of mentors at enterprises have not been developed.

4.3 In-service training for students in innovative educational and production environment which is based on the following ideas:

- introduction of requirements of professional standards into practice of educational activities and formation on this basis new content of professional training;
- development of students' productive and creative abilities for assimilation general professional, professional and key competencies that are in demand by modern high-tech production;
- ensuring investment attractiveness of VET educational programs for employers by considering their requirements when designing content of education based on competencies;
- accessibility, openness and high quality advanced vocational education realized through the use of modern information and innovative pedagogical technologies;
- integration between science, education and production, ensuring introduction of the latest industry technologies and equipment into educational process;
- development of personnel, economic, methodological, scientific and information resources on the basis of VET schools with participation of strategic partners.

4.4 Involvement of qualified production personnel in pedagogical activity (instructors, teachers). It should include:

- the introduction of the new content for vocational education that meets the requirements of high-tech production;
- development of the program and educational materials that ensure implementation of standards for vocational education in working professions;
- formation of new universal and professional competencies of graduates that meet the requirements of the current labor market (corporatism, ability and willingness to work in a team, versatility, flexibility, mobility, and adaptability to new types of professional activities);
- creativity in work, ability to self-learning and self-development, independence, and responsibility for the results;
- systemic and analytical thinking, innovative professional activities;
- development of modular programs for advanced vocational training particularly for unemployed population for professions within the framework of the innovative educational program under agreements with employers and employment service.

4.5 Implementation of institutional research and consulting (monitoring the quality of the provision of educational services in the field of vocational education, updating educational standards)

Pedagogical conditions for the introduction of dual education elements in professional training of future skilled workers include:

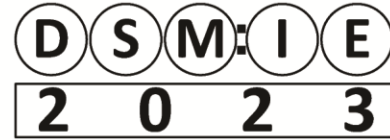
- development of methodology for organizing the dual form of training for professional training of future skilled workers in construction, engineering industries, service sector, and public catering;
- development of cooperation with enterprises where customers are ensured the quality of vocational training at the workplace that meets the requirements of employers;
- creation an educational and production environment for the institution of vocational education in the dual form of education;
- development of educational and methodological materials for introduction of dual education elements to professional training of future qualified workers in construction, engineering industries, service sector, and public catering.

Development and implementation of the methodical system for professional training of future skilled workers with elements of the dual form of education

- includes *the set of interrelated components* (students, teachers, goals, content, means of pedagogical interaction, diagnosis, and assessment, promising opportunities for updating the methodological system and social partners)
- aims to improve the quality of professional training

The teaching staff of VET schools have formulated *the most critical factors* necessary to ensure the effectiveness of professional training

- introduction of innovative pedagogical technologies into the educational process of the VET schools
- updating the content of vocational education and training in line with labor market requirements



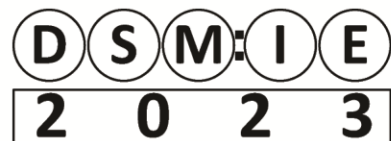
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5 Conclusions

Thus, generalization of obtained experimental and scientific results made it possible to formulate number of recommendations for organizing effective implementation of dual education elements in professional training of future skilled workers:

- determine the needs in legislative regulation interaction, functions, responsibilities of all participants of vocation educational system;
- develop models and mechanisms of public-private partnership, in particular, cooperation between VET schools and BE, providing for appropriate methods of motivating and encouraging social partners to participate in practical training of future skilled workers in dual form of education;
- create special independent platform for systematic monitoring the labor market both at state and regional levels;
- ensure systematic professional development of teaching staff, aimed at mastering the latest production technologies and creating an institution of mentoring;
- optimize professional and theoretical training of future specialists at VET schools, focused on use of electronic textbooks, electronic educational resources, content libraries, SMART complexes, etc.



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Thank you very much for your attention!

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