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Анотація: У роботі розглянуто мовну підготовку як важливий інструмент трансферу наукових знань у виробничу сферу. Проаналізовано сучасні підходи до іншомовної підготовки у закладах вищої освіти, зокрема її роль у забезпеченні доступу до міжнародних наукових ресурсів, інновацій та технологій. Визначено ключові чинники ефективності мовної підготовки у контексті інтеграції освіти, науки і виробництва. Узагальнено напрацювання українських науковців щодо комунікативного, компетентнісного та міждисциплінарного підходів до навчання іноземних мов.

Ключові слова: мовна підготовка, трансфер знань, інновації, англійська мова, професійна комунікація, аграрний сектор.

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EDUCATION, SCIENCE AND INDUSTRY INTEGRATION IN SPECIALIST TRAINING: EVIDENCE FROM INTERNATIONAL PRACTICE

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Abstract: The theses investigate international experience of interaction between education, science and industry in the training of specialists. The German dual vocational training system as a leading global model of integration of theoretical and practical components of learning is analysed. The experience of France in expanding apprenticeship in higher education institutions and the joint initiative of Switzerland, Austria and Germany within the "Dual VET Alliance" are characterised. The key conditions for effective education-industry interaction are identified: legislative

regulation, economic incentives for employers, competence-based orientation of standards, and institutional support for partnership. Possibilities for adapting international models in Ukraine in the context of implementing the Law of Ukraine "On Vocational Education" (2025) are determined.

Keywords: international experience, dual education, education-industry interaction, training of specialists, dual system, apprenticeship, professional standards, adaptation of international experience, Germany, France, Switzerland.

The search for effective organisational models of specialist training that combine educational, scientific and industrial components is one of the priorities of reforming the education system of Ukraine. The study of international experience of such countries as Germany, France and Switzerland allows the identification of practice-tested mechanisms that can be adapted to domestic conditions.

Among international models of education-industry interaction, the most thoroughly studied is the German dual system, recognised worldwide as an "effective basic model" of specialist training [1]. Its key characteristic is simultaneous training at two venues: an enterprise and a state vocational school. Enterprises bear two thirds of the total costs of initial vocational training, viewing the education of their future personnel as the best form of recruitment [1]. As of 2023, 470,900 new training contracts were signed in the German dual system, and the total number of trainees exceeded 1.22 million across 327 recognised occupations [2].

Researchers Mordhorst and Jenert (2023) examined 152 higher education programmes integrating academic and vocational components at higher education institutions in Germany and identified five types of such integration depending on the degree of interconnection between the theoretical and practical components [3]. This demonstrates that even within a single country, education-industry interaction is implemented in different ways and requires systematic analysis when being adopted elsewhere.

Graf (2024) conducted a comparative analysis of work-based learning models in higher education in France, Germany and the United States. In France, as of 2022, 576,000 apprentices were enrolled in higher education institutions, accounting for 51.4% of all apprentices in the apprenticeship system and 11.6% of all higher education students. Notably, even the prestigious grandes écoles, which had traditionally focused on purely academic training, joined this form of education [4].

Switzerland, Austria and Germany formed the "Dual VET Alliance" in 2023 to jointly provide advisory services to other countries on reforming their vocational training systems. Among the key areas of the alliance are the development of competence-based standards and curricula, the training of pedagogical staff at vocational education institutions, and encouraging enterprise readiness to participate in the training of personnel [5].

A synthesis of international experience allows the identification of the following conditions for effective education-industry interaction. First, legislative regulation of enterprise participation in specialist training and a clear distribution of responsibility between the educational institution and the employer. Second, a system of economic incentives for enterprises, including cost compensation and tax benefits, as well as the

involvement of chambers of commerce and industry as quality regulators. Third, competence-based orientation of training standards developed jointly with sectoral associations. Fourth, institutional support through permanent communication mechanisms between the educational institution, the enterprise and the student.

International experience convincingly demonstrates that effective interaction between education, science and industry in the training of specialists does not emerge spontaneously – it requires a regulatory and legal foundation, economic incentives for employers, and jointly developed standards. The successful models of Germany, France and Switzerland cannot be transferred mechanically; however, their key elements can be adapted taking into account Ukrainian educational, economic and legal conditions – in particular, in the context of implementing the Law of Ukraine "On Vocational Education" (2025).

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Анотація: У тезах досліджено зарубіжний досвід взаємодії освіти, науки та виробництва у підготовці фахівців. Проаналізовано дуальну систему професійної підготовки Німеччини як провідну світову модель інтеграції теоретичного і практичного компонентів навчання. Охарактеризовано досвід Франції щодо розширення учнівства у закладах вищої освіти та спільну ініціативу Швейцарії, Австрії і Німеччини у межах «Альянсу дуальної ВЕТ». Виокремлено ключові умови ефективної взаємодії освіти і виробництва: законодавче регулювання, економічні стимули для роботодавців, компетентнісна орієнтованість стандартів та інституційне забезпечення партнерства. Визначено можливості адаптації зарубіжних моделей в Україні в контексті впровадження Закону України «Про професійну освіту» (2025).

Ключові слова: зарубіжний досвід, дуальна освіта, взаємодія освіти і виробництва, підготовка фахівців, дуальна система, учнівство, професійні стандарти, адаптація зарубіжного досвіду, Німеччина, Франція, Швейцарія.