

Integration of English with Professional Cycle Disciplines: Opportunities and Challenges

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Abstract. The article provides a comprehensive analysis of the problem of integrating the English language with professional cycle disciplines in the system of higher education in Ukraine under conditions of contemporary educational transformations. The relevance of the study is determined by the growing role of English as a tool for professional communication, academic mobility, and access to the international scientific and educational space, as well as by the need to enhance the quality of training of future specialists in the context of European integration processes, digitalisation of education, and socio-psychological challenges caused by wartime conditions.

The paper examines the theoretical foundations of integrated learning and generalises contemporary approaches to combining language and professional training. Particular attention is paid to the analysis of the main models of integrating English with academic disciplines, namely EMI, CBI, and CLIL, outlining their didactic potential, advantages, and limitations in the context of Ukrainian higher education. It is demonstrated that the choice of an integrated learning model should be based on the level of learners' language proficiency, the specifics of professional cycle disciplines, and the methodological readiness of instructors.

The article systematises strategies for integrating English with professional cycle disciplines during lectures, practical classes, and seminars, including visualisation, personalisation, historicisation, socio- and linguocultural orientation, diversification of language and speech activities, gamification, collaborative learning, project-based learning, problem-based learning, and the use of information, communication, and multimedia technologies. It is substantiated that the combination of these strategies contributes to reducing cognitive load, increasing learning motivation, and forming professionally oriented foreign language competence.

Special attention is given to the key challenges and constraints of implementing integrated learning in current conditions, including the uneven level of English language proficiency among students, increased cognitive load, insufficient methodological training of instructors for integrating language and professional components, as well as the impact of digitalisation and wartime challenges on the educational environment. The significance of the study lies in the possibility of applying the obtained results to improve educational programmes, develop integrated courses, and enhance the quality of professional training in higher education. Prospects for further research are associated with the empirical verification of the effectiveness of integrated learning models and the adaptation of international experience to the needs of Ukrainian higher education.

Keywords: integrated learning; professional cycle disciplines; professionally oriented foreign language competence; educational transformations; methodological strategies.

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Introduction

In today's globalized world, English plays a unique role as a tool for international professional interaction, academic mobility, and access to the global scientific and technological space. Its role goes far beyond the purely communicative function, transforming into an important factor in the professional competence of specialists regardless of their field of training. For Ukraine's higher education system, which is undergoing European integration processes, digital transformation, and military challenges, the issue of quality language training for students is of particular importance. Proficiency in English opens up access to international educational and scientific resources, promotes academic mobility, intercultural communication, and the integration of Ukrainian specialists into the global professional space.

At the same time, current trends in higher education show that the effectiveness of foreign language training largely depends on its integration with professional disciplines. Isolated study of English without taking into account the specifics of future professional activities limits the opportunities for developing applied language skills and reduces the motivation of students. On the other hand, the integration of English with professional disciplines contributes to the formation of comprehensive professional competence, within which language knowledge becomes a tool for solving real professional tasks, analyzing specialized texts, participating in international professional dialogue, and interdisciplinary interaction.

In this context, professional disciplines can be seen as the basis for integrating foreign language training into the educational process. This approach is consistent with the competence paradigm of modern higher education, which is focused on developing the ability of future specialists to act effectively in complex professional situations, using English as a tool for professional thinking, communication, and self-development. Thus, the integration of English into professional disciplines is in line with the general direction of modernization of higher education in Ukraine.

The relevance of introducing integrated learning is growing in the context of the current challenges facing the Ukrainian education system, such as the need to increase the competitiveness of higher education institutions in the context of European integration, the consequences of the pandemic, military actions, the digitization of the educational process, and a decrease in the number of students.

The aim of this article is to provide a theoretical justification and analysis of the opportunities and challenges of integrating English into professional disciplines in higher education institutions in the context of modern educational transformations, as well as to identify effective strategies for implementing integrated learning as a means of developing professionally oriented foreign language competence in students. To achieve this goal, the article sets out to accomplish the following tasks: analyze contemporary approaches to the integration of English into academic disciplines in the context of higher education and outline their didactic possibilities; to characterize the main models of integrated learning (EMI, CBI, CLIL) and determine their potential in the formation of professional competence of students; to identify key strategies for integrating English with professional disciplines during lectures, practical classes, and seminars; analyze the pedagogical conditions and factors of effectiveness of integrated learning implementation in the modern educational environment; outline the main challenges and limitations of integrating English with professional disciplines in the context of transformational processes in higher education in Ukraine; justify the feasibility of using an integrated approach as a means of improving the quality of professional training and the competitiveness of future specialists.

Results

In the current context of Ukrainian higher education, integrated English language classes can be effectively implemented in conjunction with any academic discipline, which increases

their role in the education system. This approach involves the holistic use of all types of language activities - speaking, reading, writing, and listening - which function in close interconnection in a real communicative environment and cannot be considered in isolation. The comprehensive combination of these types of activities ensures the effectiveness of integrated learning and contributes to the formation of professionally oriented foreign language competence of modern higher education seekers [4].

A key factor in the successful implementation of integrated learning is the interaction between the teacher and students, which forms the basis of the educational process. Effective pedagogical interaction involves the active involvement of students in learning activities, joint search for solutions, exchange of ideas, and the formation of partnerships in the learning process. The use of integrated learning is a common practice among educational institutions in Europe and the United States. Foreign experience shows that teachers actively use various methods and pedagogical technologies that optimize the organization of integrated classes and increase their effectiveness [9]. Ukrainian researchers emphasize that the development of binary or integrated classes is a complex methodological process that requires thorough professional and methodological training from the teacher. This format involves the creation of a system of tasks from different academic disciplines that must be accessible, logically structured, and methodologically sound [2; 3].

Contemporary scientific research in the field of foreign language teaching methodology shows that effective learning is based on a combination of various approaches, among which communicative, culture-oriented, personality-oriented, and pragmatic approaches dominate. At the same time, competence-based, lexical, problem-oriented, and text-centered approaches are becoming increasingly important, ensuring the development of the ability to use English as a tool for professional activity in real-life situations.

Interactive and integrated methods of teaching foreign languages, in particular interactive exercises, game technologies, project activities, collaborative learning, as well as the use of information and communication digital technologies and AI, are becoming particularly important in modern pedagogical practice. These approaches create favorable conditions for combining language training with the content of professional disciplines and the formation of professionally oriented foreign language competence of students. The use of integrated teaching models in the teaching of professional disciplines involves not only the assimilation of theoretical material, but also the development of language skills, the enrichment of professional vocabulary, and the formation of the ability to communicate professionally in a cross-cultural environment [5]. At the same time, it is important to take into account that the complexity of the terminology and the abstract nature of professional concepts significantly complicate the perception of material in a foreign language, which necessitates the use of appropriate teaching strategies.

The scientific literature identifies several models of integrated learning that implement the “professionally oriented discipline + English language” approach. One of the most common is the EMI (English as a Medium of Instruction) model, which involves teaching professional disciplines in English. According to researchers at Oxford University, there is a so-called “EMI boom” in the global educational space, manifested in the rapid implementation of this model not only in higher education institutions but also in secondary schools [5]. At the same time, scientists warn that the widespread implementation of EMI is often carried out without due consideration of the language training of students and the pedagogical consequences of such an approach, which can reduce the effectiveness of the educational process. Within the EMI model, teaching strategies such as gradual adaptation to integrated learning, control of the pace and linguistic complexity of the presentation, systematic repetition of lexical material, use of key concepts, visualization, and use of additional learning resources play a special role. It is also important to involve learners in discussions, group

work, and reflection, which contributes to the activation of cognitive activity and the formation of professional autonomy [8].

Research conducted within the framework of the EMI Oxford Research Group aims to study the impact of EMI on language proficiency, quality of learning, flexibility of language use, pedagogical effectiveness, and professional competence of teachers. The results indicate the need for a didactically balanced implementation of this model, taking into account the language abilities of learners and the specifics of academic content [9].

Another common model of integrated learning is Content-Based Instruction (CBI), in which language is used as a means of mastering an academic discipline. Although priority in this model is given to the content of professional training, language goals are also implemented systematically and consciously. Within CBI, various forms of teaching organization are possible: joint teaching by a language teacher and a subject teacher, or the implementation of an integrated course by a single teacher, provided that they have a sufficient level of language competence [10].

The CLIL (Content and Language Integrated Learning) model is a separate group, which in the European educational space is considered a type of integrated learning with an enhanced language component [11]. Unlike CBI, where the content component dominates, CLIL is more focused on developing language competence through the study of subject content. As researchers note, CLIL curricula are often based on language courses, while CBI is based on the objectives of a professional discipline [10]. Therefore, we can say that CLIL is, by its nature, closer to professionally oriented foreign language teaching.

Effective integration of English with professional disciplines involves a purposeful combination of language training with the content of professional courses, which ensures the development of the ability to use a foreign language as a tool for professional activity. This approach contributes to the development not only of language competence, but also of analytical thinking, professional reflection, and intercultural sensitivity of future specialists [7]. In this context, researchers highlight a number of strategies aimed at the effective integration of English into the educational process of professional training. For example, Duna N. and Yurchenko V. suggest distinguishing between strategies for presenting lecture material and strategies for presenting material during practical and seminar classes [1]. In Table 1, we propose a more detailed look at the features of strategies for integrating English into professional disciplines.

Table 1.

Strategies for integrating English into professional disciplines

Strategy name	Content of the strategy	Didactic goal of the strategy	Ways of applying the strategy in the educational process
Visualization	The use of visual teaching aids is envisaged in order to combine the linguistic and professional content of the discipline. This is achieved through the use of diagrams, tables, graphs, infographics, mind maps, video and audio materials in English.	Forming an understanding of professional terminology, developing skills for perceiving foreign-language information, and integrating theoretical knowledge into a professional context.	analysis of English-language video lectures; work with infographics on professional topics; use of English-language presentations when studying specialized topics.

Personalization strategy	Focused on understanding professional knowledge through the personalities, biographies, and scientific achievements of leading representatives of the professional field using authentic English-language sources.	Increasing motivation to learn the language, developing critical thinking and the ability to interpret professional discourse.	Analysis of scientists' biographies, study of excerpts from their works in English, discussion of professional contributions in the context of contemporary challenges.
The historicization strategy	involves understanding the development of professional ideas in a chronological and sociocultural dimension based on English-language sources.	Forming a holistic view of the evolution of professional knowledge and developing comparative analysis skills.	working with historical sources, analyzing the stages of theory formation, comparing approaches in different countries and scientific traditions.
The strategy of socio- and linguo-cultural orientation	aimed at understanding professional concepts as sociocultural phenomena using the tools of linguoculturology, sociolinguistics, and conceptology.	Formation of intercultural communicative competence and the ability to critically analyze professional discourse.	analysis of English-language media texts, scientific publications, professional cases; interpretation of key concepts in different cultural contexts.

Source: compiled by the author based on materials [1;8;12]

The proposed strategies for integrating English into professional disciplines reflect a comprehensive approach to developing the professional competence of higher education students. Their combination ensures not only the acquisition of professional terminology in a foreign language, but also the development of analytical thinking, the ability to engage in interdisciplinary interaction, and an awareness of the sociocultural context of professional activity. Each of the strategies performs a separate didactic function, but together they form a holistic model of integrated learning focused on the practical application of knowledge. The implementation of these strategies contributes to increasing the motivation of students, activating cognitive activity, and forming readiness for professional communication in English in real and simulated professional situations. In this way, the integration of English with professional disciplines is not only a methodological technique, but also a systematic approach to training competitive specialists who are able to function effectively in a globalized educational and professional environment.

Table 2.

Strategies for presenting material during practical and seminar classes in the process of integrating English with professional disciplines

Strategy	Content of the strategy	Pedagogical effect/result
Diversification of language and speech activities	involves the use of various types of speech activity (reading, listening, speaking, writing) when working with professional material. Verbal and nonverbal methods of lexical semantization (contextualization, associations, semantic maps, visual aids, etc.) are used to promote a deeper understanding of professional terminology.	development of linguistic intuition, activation of cognitive activity, formation of stable lexical skills and professional speech.
Gamification of the educational process	involves the use of game-based and interactive forms of learning (online quizzes, simulations, role-playing games, digital platforms) that simulate professional situations and stimulate the active participation of learners.	Increased motivation to learn, development of cognitive activity, speed of thinking, and decision-making skills in a professional context.
Collaborative learning and project activities	is based on group interaction, role distribution, and collective responsibility for the result. It is implemented through the completion of project tasks that involve the creation of a joint product (presentations, analytical material, scripts, information products).	Formation of communication skills, teamwork skills, professional interaction, and critical thinking.
Problem-based learning and case method	is focused on analyzing professionally relevant problematic situations that do not have a clear solution. Students are involved in discussion, argumentation, and the search for optimal solutions within a professional context.	development of analytical thinking, autonomous learning, and the ability to apply knowledge in practical professional situations.
Use of information and communication and multimedia technologies	involves the use of digital resources, multimedia platforms, and interactive environments that combine text, audio, and visual information and create the effect of immersion in a professional language environment.	improving the effectiveness of material assimilation, developing digital and foreign language communication skills.

Source: compiled by the author based on materials [1;8;12]

The proposed strategies for presenting material during practical and seminar classes provide a holistic approach to integrating English with professional disciplines and contribute to the formation of professionally oriented foreign language competence among higher education students. Their combination creates conditions for the active involvement of students in the learning process, the development of communicative, analytical, and cognitive skills, as well as the formation of the ability to apply English in real professional situations.

The application of these strategies facilitates the transition from reproductive forms of learning to an activity-oriented model, within which students are active participants in cognitive activity. This approach ensures the integration of language training with the professional content of education, increases motivation to learn English, and meets the modern requirements for training competitive specialists in a globalized educational space [12].

The integration of English with professional disciplines in the context of transformational processes in higher education in Ukraine is accompanied by a number of systemic challenges and limitations. Among the key factors, it is worth highlighting the uneven level of language training among students, which complicates the effective assimilation of professional content in a foreign language and requires differentiated approaches to teaching. At the same time, a significant challenge remains the insufficient methodological training of teachers for the implementation of integrated learning, in particular in terms of combining subject and language components within a single course. The situation is further complicated by the increased cognitive load on students caused by the simultaneous processing of complex professional material and a foreign language, which can reduce their motivation to learn. Additional limiting factors include the consequences of the digitization of the educational process, in particular unequal access to technological resources, as well as socio-psychological challenges related to wartime conditions and the instability of the educational environment. Taken together, these factors necessitate a balanced, adaptive approach to the implementation of integrated learning, focused on supporting the academic resilience of students and ensuring the quality of professional training.

Conclusions

Thus, the integration of English into professional disciplines is an effective tool for improving the quality of higher education, provided that the selection of teaching models and strategies for their implementation is methodologically sound. This approach makes it possible to reduce cognitive load, increase the motivation of students, and ensure the formation of professional competencies necessary for successful activity in a globalized educational and professional space. It also defines the prospects for further research aimed at adapting integrated learning to the challenges of modern Ukrainian higher education.

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