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CHAPTER 6. METHODOLOGY OF TEACHING ENERGY CYCLE DISCIPLINES FOR STUDENTS OF SPECIALTY A5.33 PROFESSIONAL EDUCATION (POWER ENGINEERING, ELECTRICAL ENGINEERING AND ELECTROMECHANICS)

6.1. Implementation of Educational Software in Teaching Energy Cycle Disciplines for Applicants for Specialty A5.33 Professional Education (Power Engineering, Electrical Engineering and Electromechanics)

Educational software in the professional training of applicants to higher education institutions (HEIs) is understood as software that reflects the information industry, implements learning technology, provides conditions for carrying out various types of educational activities and computerization of education [3].

In the HEI educational process, computer technologies can be both an object of study and a means of learning, that is, two directions of computerization of education are possible. In the first, the acquisition of knowledge, skills and abilities leads to the awareness of the capabilities of computer technologies, as well as its use in solving various tasks, that is, it leads to the mastery of computer literacy. In the second, computer technologies are a powerful means of increasing the effectiveness of education. These two directions form the basis of computerization of education as a social process.

Advantages of computer technologies when used in the HEI educational process:

– computer technologies have significantly expanded the possibilities of presenting educational information. The use of colors, graphics, animation, sound, all modern means of video technology allows you to recreate real circumstances of activity;

– computer technologies allow you to increase the motivation for learning. Not only the novelty of working with modern computer technologies, which in itself often contributes to increasing interest in learning, but also the ability to regulate the presentation of educational tasks by difficulty, encouraging correct decisions, without resorting to morality and condemnation, which are often abused by teachers, has a positive effect on the motivation for learning;

– computer technologies allow you to completely eliminate one of the most important reasons for a negative attitude towards learning – failure, caused by misunderstanding of the essence of the problem, significant gaps in knowledge, etc. Working on a computer, a higher education applicant gets the opportunity to complete the solution of any educational task in the disciplines of the energy cycle, since he is provided with the necessary assistance, and if the most effective educational systems are used, where the solution is explained, he can discuss its optimality. Computer technologies can influence the motivation of applicants, revealing the practical significance of the material being studied, giving them the opportunity to test their mental powers and show originality, setting an interesting task, asking any questions and offering any solutions without the risk of getting a low score for it - all this contributes to the formation of a positive attitude towards learning.

As for curiosity as a source of motivation for professional training of higher education students, the possibilities of computer technologies here are inexhaustible,

and the main task, which has already become more relevant today, is to ensure that this curiosity does not become a dominant factor in the use of computer technologies, so that it does not obscure the actual educational goals of energy cycle disciplines:

– computer technologies actively involve HEI students in the educational process;

– sets of educational tasks used during teaching of energy cycle disciplines are greatly expanded. It should be borne in mind that this is not so much about setting tasks (in principle, any form of education, including traditional ones, allows setting any tasks), as about managing the process of solving them;

– allows qualitatively changing control over the activities of students, while ensuring flexibility in managing the educational process;

– contributes to the formation of reflection on their activities among HEI students. First of all, computer technologies allow students to clearly present the results of their actions.

In the HEI educational process, the use of software is more effective than the use of other pedagogical technologies. In this case, the following most significant, from the point of view of didactic principles, pedagogical and methodological goals are achieved:

– formation of an activity approach to the educational process;

– individualization and differentiation of the educational process while preserving its integrity;

– stimulation of cognitive activity of applicants;

– implementation of self-control and self-correction;

– control of training stages of the educational process;

– implementation of control with feedback, with diagnostics and assessment of the results of educational activity;

– strengthening of motivation for learning;

– introduction of fundamentally new cognitive means into the educational process: computational experiment, modeling and simulation of objects and phenomena under study, conducting laboratory work in conditions of simulation in a computer program of real experience or a full-scale experiment, solving problems using expert systems;

– the possibility of carrying out creative research activities related to the processing and generalization of large volumes of information, etc. [3].

Educational software has a multi-layered nature; therefore, the classification of electronic educational tools is based on generally accepted methods of classifying both educational and electronic publications and software.

Based on what is described in the pedagogical literature, educational software when teaching energy cycle disciplines in higher education institutions should be classified:

– by didactic goals;

– by the form of organization of classes;

– by methodological purpose.

The classification of educational software for teaching energy cycle disciplines in higher education institutions according to didactic purposes is divided into:

– knowledge formation;
– generalization of knowledge;
– consolidation of knowledge;
– improvement of knowledge;
– control of assimilation;
– formation of skills;
– communication of information.

The classification of educational software for teaching energy cycle disciplines in higher education institutions according to the form of organization of classes is divided into:

– lectures;
– practical classes;
– laboratory classes;
– self-training;
– tests, exams;
– project work;
– research works.

The classification of educational software for teaching energy cycle disciplines in higher education institutions according to methodological purposes is divided into:

1. Curriculums manage the educational and cognitive activities of a higher education institution student and, as a rule, partially perform the functions of a teacher.

A curriculum is an indirect material implementation of the algorithm of interaction between a student and a teacher, which has a certain structure. It begins with an introductory part, in which the teacher directly addresses the student, indicating the purpose of this program. In addition, the introductory part should include a task statement to interest the student, as well as brief instructions on how to complete the program.

A curriculum performs a number of functions for a teacher:

– is a source of information;
– organizes the educational process;
– controls the degree of assimilation of the material;
– regulates the pace of studying the subject;
– provides the necessary explanations;
– prevents errors [4].

2. Information and reference programs are designed to display and search for the necessary information.

If a student can use a personal computer during preparation for classes or during classes, which is connected via a modem and telephone line to other computers, then he can obtain any necessary information, having access to a computerized catalog of books and periodicals. Using a computer, a student will be able to access any organized information repository, to many data banks.

3. Simulation programs are designed to "simulate" objects and phenomena of energy cycle disciplines. These programs are especially appropriate to use when the phenomenon is impossible or very difficult to implement. When using such programs, abstract concepts become more concrete and are more easily perceived by students. In addition, students gain much more knowledge when actively learning the material than simply memorizing passively received information.

4. Educational and game programs are designed to reproduce educational situations.

By their purpose, the game element is a means of motivating educational activity. The events occurring in the game should be related to the tasks being performed. Successful completion of tasks should be accompanied by a result in the game, which causes activation of educational activity, positive emotions, and a desire to achieve new successes.

When working with a computer, educational and game programs solve certain educational and educational tasks hidden in the form of an exciting game action.

5. Demonstration programs are designed to visually present educational material.

The teacher can successfully use the computer as visual aids when explaining new material during the study of energy cycle disciplines. Demonstration programs that use dialogic or interactive graphics have great opportunities for intensifying the educational process.

6. Control programs are designed to check the quality of knowledge. Such programs allow the teacher to conduct current and final control of the knowledge and skills acquired by higher education applicants in the process of studying energy cycle disciplines.

It is known that the control of the knowledge of applicants is one of the most important and at the same time, by the nature of the organization and the level of theoretical research, one of the weakest links in the educational process. The main drawback of existing forms and methods of control is that in most cases they do not yet provide the necessary stability and invariance of the assessment of the quality of learning information assimilation, as well as the necessary adequacy of the assessment to the actual level of knowledge. Improving the control of the course of education should focus on the problem of increasing the reliability of the assessment of knowledge, skills and abilities that are being formed. This problem can be considered in two aspects: firstly, as an increase in the degree of correspondence of pedagogical assessment to the actual level of knowledge of applicants; secondly, as the creation and implementation of such methodological control methods that would ensure the independence of assessments from random factors and subjective attitudes of the teacher.

7. Simulator programs are intended for the formation and consolidation of skills and abilities, as well as for self-training of applicants to higher education institutions.

Using these programs, it is assumed that the theoretical material has already been mastered by the candidates. The software generates educational tasks, the level of complexity of which is determined by the teacher. If the candidate has given the correct

solution, he is notified of this, otherwise he is either presented with the correct answer or given the opportunity to request help.

6.2. Laboratory Practical as a Form of Organizing Training in Energy Cycle Disciplines

Computer technologies have formed a new type of individual form of learning: face-to-face with a computer. As noted, [12–17, 22–27], in teaching the disciplines of the energy cycle, we can talk about individual learning in contact with collective knowledge, which is implemented in the form of "learner and computer".

The form of learning organization is a time-limited construction of a separate link in the learning process.

The form of learning organization is a historically formed and completed organization of the pedagogical process, systematicity and integrity, self-development, personal and activity character, constancy of the composition of participants, the presence of a certain mode of behavior [6].

Considering the development of organizational forms of learning over time, A. Bochkin emphasizes two series of changes: a monotonous departure from individual learning and the transition from the management of educational activities by the teacher to the self-management of the learner's knowledge.

The driving force behind the transition from individual to collective learning was the desire to increase the number of students, while involving fewer teachers.

Computer technologies are reviving individual forms of learning. Due to the replication of information in pedagogical software, multimedia training courses, and the use of Internet resources, the advantage of frontal forms is also preserved: computer technologies remove the contradiction between mass and individual learning.

One of the most important tasks of a teacher of energy cycle disciplines in higher education institutions is to form the skills of independent cognitive activity in a student.

In the form of computer training courses, hypertext textbooks, and educational software, a range of learning options is increasingly offered, not a rigid and monotonous learning algorithm. Studying new software tools, project activities in various software and information environments contribute to the formation of independent activity skills. The content of learning and the order of its assimilation are determined by the student himself, which leads to self-governance of cognition.

Laboratory work (frontal) is the main form of work when studying the disciplines of the energy cycle. All students work simultaneously at their workplaces with the appropriate software.

The activities of students can be both synchronous (for example, when working with the same educational software), and at different paces and even with different software. Often there is a rapid "spreading" of frontal activity, which began even with a common initial task. The role of the teacher during frontal laboratory work is to observe the work of students (including via a local network), as well as provide them with operational assistance.

The didactic purpose of the software used can be different: mastering new material (for example, using educational software), consolidating new material (for example, using a simulator program), checking the mastering of acquired knowledge or operational skills (for example, using a control program or a computer test).

The start of work may be preceded by a preliminary readiness check (at the tables for traditional classes).

Individual practical work is a higher form of work compared to frontal laboratory work, which is characterized by a variety of tasks, both in terms of complexity and level of independence: greater reliance on textbooks, reference material, possibly Internet resources; more complex questions to the teacher.

Applicants receive individual assignments from the teacher for one, two or more classes, including completing part of the assignment outside of classes, in particular at home. As a rule, such an assignment is given to practice knowledge and skills on an entire section (topic) of the course. Applicants decide for themselves when to use a computer (including for searching on the Internet), when to work with a book or make the necessary notes in the notes. In general, this form is already transitional to extracurricular activities [9].

Taking into account the hygienic requirements for organizing the work of applicants with computer technologies, the teacher must ensure that the time of continuous work of applicants at the computer does not exceed the recommended norms. During the practical work, the teacher monitors the progress of applicants, provides them with assistance, and, if necessary, invites all applicants to discuss general issues, paying attention to characteristic errors.

Project form of learning. The basis of the project form is creative activity. The characteristics of the project form of learning are:

– the presence of an organizational stage of preparation for the project – independent selection and development of a solution option, selection of software and hardware, selection of information sources;

– selection of a leader (organizer, coordinator) from among the project participants, distribution of roles;

– the presence of a stage of self-examination and self-assessment (reflection on activities), defense of the result and assessment of the level of performance;

– each group can develop a separate project or participate in the implementation of a collective project.

Differences in the communicative interaction of the teacher and applicants are the basis for dividing organizational forms of learning into three groups:

1) individual lessons of the teacher with the applicant, in particular self-study;

2) collective-group lessons such as class lessons;

3) systems of individual-collective lessons.

For the purposes of a laboratory workshop on the disciplines of the energy cycle, educational software is best suited. Working face-to-face with educational software, the student master's knowledge at his own pace, choosing an individual route for studying educational material within the framework of a given topic. The radical difference of

this form from the classical independent form of work is that the program is an interactive "mold" of the intellect and experience of its author [5].

When creating educational software for a laboratory workshop on energy cycle disciplines, it is proposed to carry out the following main operations:

– determine the purpose of creating educational software;
– create a thematic plan;
– develop educational software (step-by-step thematic plan);
– create a matrix – a skeleton of educational software;
– create a prototype;
– verification and improvement [2].

Methodologists distinguish the following stages of the methodology for compiling educational software for a laboratory workshop on energy cycle disciplines:

– determining the purpose of the program (control, self-control, training, training, etc.);
– determining the list of topics (sections of the program);
– revealing the topics (sections) regarding the content of the educational material, its complexity and levels of educational activity;
– compiling questions and choosing the implementation method;
– determining the number of questions to be worked out in the set time;
– preliminary selection of marking criteria, which are specified based on the results of the practical examination of applicants;
– determining the full scope of the program and the order of presentation of individual fragments of the program to the applicant;
– designing the program [4].

Development of educational software is a multi-level process, in which the conceptual, technological, operational levels and the implementation level are distinguished.

Let us consider the stages necessary for the development of educational software for a laboratory workshop on the disciplines of the energy cycle:

Stage I: a technical proposal made on the basis of educational needs and learning objectives. At this stage, the situation with the use of computer-based educational systems in education is analyzed.

Stage II: development planning, resolving issues of setting deadlines. At this stage, deadlines for the implementation of individual stages of development and the entire product as a whole are set, and the final date for its release is assigned. In the future, the compiled schedule allows you to flexibly respond to difficulties that arise during the development process, control lag or advance, connect or release resources and redistribute them between individual stages of development.

Stage III: development of course content. At this stage, an analysis of the curriculum and the composition of students is carried out, a course strategy is determined, a script and interactive interaction of the program with users are developed.

Stage IV: program development. At this stage, a programming language, a programming system are selected and work is carried out to create a software product.

Stage V: testing and testing. At this stage, testing of the developed program begins, a series of tests are carried out to identify programming errors.

Stage VI: operation and implementation. At this stage, a fully completed computer-based learning system is being implemented in higher education institutions.

The effectiveness of the use of computer technologies in the educational process of higher education institutions depends on the quality of educational software. Creating educational software is a creative process that requires not only logical thinking, but also intuition [2]. This process is not yet sufficiently studied and cannot be described using strict regulations.

Reference

1. Бар Р., Таг Дж. Від навчання до вчення – нова парадигма вищої освіти. *Університетська освіта : від ефективного викладання до ефективного вчення* : зб. статей-рефератів з дидактики вищої школи, 2001. № 5. С. 13–39.

2. Беспалько В.П. Педагогіка та прогресивні технології навчання. Київ : Вища школа, 1995. 336 с.

3. Босова Л.Л. Інформатика : підручник. Чернігів : БІНОМ, 2007. 208 с. : іл.

4. Вербицький А.А. Психолого-педагогічні особливості контекстного навчання. Кам'янець-Подільський : Знання, 2007. 110 с.

5. Воронін Ю.А. Компютеризовані технології у процесі підготовки вчителя. *Педагогіка в освіті.* 2003. № 8. С. 53–59.

6. Гребенюк О.С., Гребенюк Т.Б. Теорія навчання : навч. для студ. вищ. навчань, закладів. Херсон : ВЛАДОС-ПРЕС, 2003. 384 с.

7. Жалдак М.І., Хомік О.А. Формування інформаційної культури вчителя. *International Charity Foundation for History and Development of Computer Science and Technique ICFCST :* веб-сайт. URL: http://www.icfcst.kiev.ua/ (дата звернення: 13.09.2025).

8. Іващук К.О. Інформаційно-комунікаційні технології – як сучасний засіб в освіті [Електронний ресурс]. Юіасна оцінка : освітній портал. URL : http://klasnaocinka.com.ua/ru/article/informatsiinokomunikatsiini-teklmologiyi-yak-suc.html (дата звернення: 14.09.2025).

9. Малєєв В.В., Малєєва А.А. Позакласна робота з інформатики : навчально-методичний посібник для студентів фізико-математичного факультету. Херсон : ХДПУ, 2003. 152 с.

10. Матвієнко О.В. «Електронний підручник» у системі дидактичного забезпечення комп'ютерних технологій навчання. *Нові технології навчання.* 2014. Вип. 29. С. 132–135.

11. Онищенко С.В. Використання ІКТ в педагогічній діяльності вчителя-предметника. *Неперервна освіта нового сторіччя : досягнення та перспективи : збірник наукових праць ЗОІППО за матеріалами ІІ Міжнародної науково-практичної конференції (18-25 квітня 2016 р.)*. 2016. № 2 (24). С. 74–78.

12. Онищенко С.В. До проблеми викладання технічних дисциплін при підготовці спеціалістів за напрямом «Професійна освіта. Енергетика». *Наукові записки Бердянського державного педагогічного університету. Серія: Педагогічні науки : зб. наук. пр.* Випуск 2. Бердянськ : БДПУ, 2022. С. 304–310. URL : https://dspace.bdpu.org.ua/handle/123456789/855 (дата звернення: 14.09.2025)

13. Онищенко С.В. Застосування ІКТ в викладанні дисциплін циклу машинознавства під час підготовки майбутніх учителів технології. *Збірник наукових праць Уманського державного педагогічного університету імені Павла Тичини* [гол. ред.: М.Т. Мартинюк]. В 1. Умань : ФОП Жовтий О.О., 2015. С. 252–257.

14. Онищенко С.В. Місце дисциплін енергетичного циклу у формуванні професійної компетентності студентів енергетичних спеціальностей. *Development strategiest for modern education and science : Materials of the III International research and practical internet conference (February, 28, 2022) : collection of abstracts*. Zdar nad Sazavou : «DEL a.s.», 2022. P. 27–30. URL : https://dspace.bdpu.org.ua/items/c05fdf35-ebc5-4808-870f-ddbf52eefcad (дата звернення: 15.09.2025)

15. Онищенко С.В. Психолого-педагогічні особливості впровадження засобів мультимедіа в освітній процес підготовки фахівців енергетичної та технологічної галузей. *Науково-методичні засади підвищення якості підготовки фахівців-педагогів системи професійної та технологічної освіти в умовах сучасності : колективна монографія* [за заг. ред. С.В. Онищенка]. Одеса : Олді+, 2024. Розд. 7. С. 124–139. URL : https://dspace.bdpu.org.ua/handle/123456789/3378 (дата звернення: 14.09.2025)

16. Онищенко С.В. Технологія формування професійної компетентності майбутніх учителів технології. *Науково-дослідні публікації. Серія «Інформатика і техніка»*. 2014. № 7 (11). С. 44–52.

17. Онищенко С. В. Формування професійної компетентності майбутнього вчителя технології засобами інформаційно-комунікативних технологій. *Науковий часопис Національного педагогічного університету імені М.П. Драгоманова. Серія №5. Педагогічні науки: реалії та перспективи*. Випуск 31. Київ : Вид-во НПУ імені М.П. Драгоманова, 2012. С. 154–159.

18. Пуха Г.П. Сучасні технології в освітньому процесі. *Вісник сучасної освіти*. 2021. № 2(29). С. 59–62.

19. Савічева Т.В. Змішане навчання у сучасному освітньому процесі : необхідність та можливості. *Вісник сучасної освіти*. 2021. №3 (30). С. 92–96.

20. Федоров А.І. Підхід до вдосконалення рівня підготовки майбутніх фахівців у сфері інформаційних технологій. *Сучасні технології у науці та освіті. СТНО-2017 : зб. тр. міжнар. наук.-техн. та наук.-метод. конф.* 2017. С. 101–103.

21. Fletcher J.D. Education and Training Technology in the Military. *Science.* 2009. №2. P. 72–75.

22. Onyshchenko S. Digital Educational Technologies in Professional Training of Higher Education Students in the Energy Field. *Modern Conditions of Development of Science, Education and Production in the World – 2025 : collective monograph.* (Series of monographs Slovak Publishing House NES Nová Dubnica s.r.o. Monograph 3). Nová Dubnica : NES Nová Dubnica s.r.o., 2025. P. 77–86.

23. Onyshchenko S. Formation of ICT-Competence of the Future Specialist in the Energy Industry in the Conditions of Informatization of Education (Distance Education). *The latest foundations for the development of production, science and education – 2023 : collective monograph.* Nová Dubnica : NES Nová Dubnica s.r.o., 2023. P. 37–55. URL : https://dspace.bdpu.org.ua/handle/123456789/118 (дата звернення: 16.09.2025)

24. Onyshchenko S. New Information Technologies in the Conditions of Distance Education. *Наукові записки Бердянського державного педагогічного університету. Серія: Педагогічні науки : зб. наук. пр.* Випуск 3. Бердянськ : БДПУ, 2022. С. 172–178. URL : https://dspace.bdpu.org.ua/handle/123456789/378 (дата звернення: 16.09.2025)

25. Onyshchenko S. Psychological and Pedagogical Foundations of the Application of Modern Information Technologies in the Educational Process of Future Specialists in the Energy Industry. *European vector of modern education, science and production – 2023 : collective monograph.* Nová Dubnica : NES Nová Dubnica s.r.o., 2023. P. 57–73. URL : https://dspace.bdpu.org.ua/handle/123456789/117 (дата звернення: 16.09.2025)

26. Onyshchenko S. Theoretical Foundations of the Formation of Graphic and Graphic and Informational Competences of Students of Energy Specialties on the Basis of Training at a Pedagogical University. *European vector of modern education, science and production – 2024 : collective monograph.* (Series of monographs Slovak Publishing House NES Nová Dubnica s.r.o. Monograph 2). Nová Dubnica : NES Nová Dubnica s.r.o., 2024. P. 162–175. URL : https://dspace.bdpu.org.ua/handle/123456789/3507 (дата звернення: 14.09.2025)

27. Onyshchenko S. Visual Means in the Educational Activity of Professional Teachers of the Professional Education System. *Scientific and research work in the system of teacher training in natural, technological and computer spheres : materials of VIII international scientific conference (with the international participation), Berdyansk, September 16-17, 2021.* Berdyansk : BSPU, 2021. P. 213–215.

ANNOTATION

CHAPTER 1. MODERN BASICS OF ECONOMICS, MANAGEMENT AND TOURISM

1.1. Tetiana Gryniv, Zoryana Skybinska ANALYSIS OF THE IMPACT OF CORPORATE CULTURE ON THE WELL-BEING AND PRODUCTIVITY OF ENTERPRISE EMPLOYEES

The article examines the role of corporate culture and leadership in shaping psychological well-being and increasing employee productivity. It analyzes the main components of corporate culture, its stages of formation, and psychological mechanisms of influence on staff behavior. The connection between organizational climate, emotional stability of employees, and their level of motivation is identified. It emphasizes the importance of leadership, effective communication, and a system of values for the development of corporate culture. Practical ways to support corporate culture as a factor in the stability and competitiveness of an enterprise are proposed.

Keywords: corporate culture, leadership, psychological well-being, motivation, productivity.

1.2. Olha Hirna OPTIMIZATION OF INTEGRATED MARKETING COMMUNICATIONS IN THE HOTEL INDUSTRY IN THE CONTEXT OF DIGITAL TRANSFORMATION

The article explores the implementation of integrated marketing communications in the hotel industry in the context of digital transformation. It examines current online promotion tools, the structure of the hotel market in Lviv, and consumer behavior trends. The study applies linear programming to optimize the advertising budget of the "Suputnyk" hotel, identifying the most efficient media mix based on audience reach.

Keywords: integrated marketing communications, hotel industry, digitalization, advertising budget, online platforms, optimization.

1.3. Nadiia Vasyltsiv TRANSFORMATION OF UKRAINIANS' MEDIA CONSUMPTION IN THE WARTIME CONDITIONS

The study examines the transformation of media consumption among Ukrainians in 2022-2024 during the full-scale war. It explores changes in news consumption patterns, the role of digital communication channels, and the popularity of various devices for accessing information. Special attention is given to the level of media literacy, critical evaluation of sources, and resistance to disinformation. The study also highlights changes in trust toward media and the impact of information fatigue on consumption practices. The Ukrainians' adaptability to new media conditions demonstrated and underscores the importance of media consumption for social resilience.

Keywords: media literacy, media consumption, social media, messagers, media content, wartime conditions.

1.4. Nataliia Kara RESEARCH AND DEVELOPMENT OF INTERNATIONAL ECONOMIC ACTIVITIES OF UKRAINIAN BREWERIES

The features of the international economic activity of Ukrainian brewing enterprises are considered, in particular, a strong dependence on legislative regulation regarding product quality, excise policy and environmental standards, a high level of competition,

CHAPTER 5. MODERN TRENDS IN THE DEVELOPMENT OF LINGUISTICS AND PHILOLOGY

5.1. Alla Sabitova, Svitlana Dyshleva, Nataliia Yukhnovets TEACHING GERMAN AS A SECOND FOREIGN LANGUAGE AFTER ENGLISH: DIDACTIC AND METHODOLOGICAL ASPECTS

The article defines the term "second foreign language" and highlights the main linguistic parallels and differences between English and German. It examines the factors that influence success in acquiring a foreign language, as well as the issues and principles of teaching German – particularly German as a second foreign language after English. Furthermore, the importance of authentic and up-to-date teaching materials is emphasized, as they enhance learners' motivation and demonstrate the relevance of the chosen language. It is also stressed that methodological approaches should be adapted taking into account the learners' existing knowledge of English. The promotion of intercultural competence is regarded as an integral part of the teaching process. Finally, the objective reasons that determine the choice of German as a second foreign language are explained.

Keywords: German as a foreign language, first foreign language, second foreign language, methodology, didactics.

CHAPTER 6. Serhii Onyshchenko METHODOLOGY OF TEACHING ENERGY CYCLE DISCIPLINES FOR STUDENTS OF SPECIALTY A5.33 PROFESSIONAL EDUCATION (POWER ENGINEERING, ELECTRICAL ENGINEERING AND ELECTROMECHANICS)

This section of the collective monograph examines the theoretical and methodological foundations of teaching energy cycle disciplines in higher education institutions that train specialists in the specialty A5.33 Professional Education (Energy, Electrical Engineering and Electromechanics). The role of innovative pedagogical technologies, digital educational environments and practice-oriented approaches in the formation of professional competencies of future engineering teachers is substantiated. Particular attention is paid to the integration of theoretical training with production practice, the use of virtual laboratories, case methods and distance platforms. Key factors of the effectiveness of the methodology for teaching professional disciplines are identified. The importance of digital educational resources, control environments and multimedia tools in improving the quality of the educational process is revealed. Methodological recommendations are proposed for improving the content, forms and methods of teaching energy cycle disciplines. The materials of the presented section of the collective monograph can be used by teachers, scientists, postgraduates and students of pedagogical and technical universities, as well as specialists in vocational education and energy.

Keywords: professional education, energy, electrical engineering, electromechanics, teaching methodology, energy cycle, engineer-teacher, distance learning, digital educational resources, virtual laboratories.

ABOUT THE AUTHORS

CHAPTER 1. MODERN BASICS OF ECONOMICS, MANAGEMENT AND TOURISM

1.1. Tetiana Gryniv – PhD in Economics, Associate Professor, Associate Professor of the Department of Accounting and Analysis, National University "Lviv Politechnic", Ukraine

Zoryana Skybinska – PhD in Economics, Associate Professor, Associate Professor of the Department of Accounting and Analysis, National University "Lviv Politechnic", Ukraine

1.2. Olha Hirna – PhD in Economics, Associate Professor, Associate Professor of the Department of Management of Organizations, National University "Lviv Polytechnic", Ukraine

1.3. Nadiia Vasyltsiv – PhD in Economics, Associate Professor, Associate Professor of the Department of Marketing and Logistics, National University "Lviv Politechnic", Ukraine

1.4. Nataliia Kara – PhD in Economics, Associate Professor, Associate Professor of Management and International Business Depatment, Lviv Polytechnic National University, Ukraine

1.5. Olena Shandrivska – PhD in Economics, Associate Professor, Associate Professor of the Department of Marketing and Logistics, Lviv Polytechnic National University, Ukraine

Nataliya Hryniv – PhD in Economics, Associate Professor, Associate Professor of the Department of Marketing and Logistics, Lviv Polytechnic National University, Ukraine

1.6. Taisiia Nakonechna – PhD in Economics, Associate Professor, Associate Professor of the Department of Marketing and Logistics, National University "Lviv Polytechnic", Ukraine

Nataliia Mashchak – PhD in Economics, Associate Professor of the Department of Marketing and Logistics, National University "Lviv Polytechnic", Ukraine

CHAPTER 2. INNOVATIONS IN MODERN MEDICINE AND BIOLOGY

2.1. Oksana Bodnar – Dr.Sc. (Biology), Professor, Dean of the Faculty of Chemistry and Biology, Professor of the Department of General Biology and Methods of Teaching Natural Sciences, Volodymyr Hnatyuk Ternopil National Pedagogical University, Ukraine

2.2. Maksym Kolomoitsev – Postgraduate Student of the Department of Biology, Nizhyn State University named after Mykola Gogol, Ukraine

2.3. Nataliia Polish – PhD, Assistant of the Department of Technology of Biologically Active Compounds, Pharmacy and Biotechnology, Lviv Polytechnic National University, Ukraine

Nataliia Marintsova – Candidate of Chemical Sciences, Associate Professor, Associate Professor of the Department of Technology of Biologically Active Compounds, Pharmacy and Biotechnology, Lviv Polytechnic National University, Ukraine

CHAPTER 6. METHODOLOGY OF TEACHING ENERGY CYCLE DISCIPLINES FOR STUDENTS OF SPECIALTY A5.33 PROFESSIONAL EDUCATION (POWER ENGINEERING, ELECTRICAL ENGINEERING AND ELECTROMECHANICS)

6.1., 6.2. Serhii Onyshchenko – PhD, Associate Professor, Associate Professor of the Department of Professional Education and Technologies, Berdyansk State Pedagogical University, Ukraine