CHAPTER 7
ANALYSIS OF INTERNATIONAL EXPERIENCE IN PROFESSIONAL TRAINING OF FUTURE TEACHERS OF LABOR TRAINING AND TECHNOLOGIES: MODELS, APPROACHES, FORMS AND TECHNOLOGIES OF PROFESSIONAL DEVELOPMENT

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Modern transformation processes in the education system, the rapid development of digital technologies, changing requirements for the professional activity of a teacher and the need to ensure a personally oriented educational process actualize the problem of improving the professional training of future teachers of labor training and technologies. Of particular importance is the formation of their pedagogical skills, which involves not only the possession of professional knowledge and practical skills, but also the ability to effectively organize educational interaction, apply innovative pedagogical technologies, use digital resources, reflect on their own activities and adapt to various educational situations [4].

In this context, the study of foreign experience in the professional training of teachers of a technological profile is especially valuable. Educational systems of different countries have accumulated significant experience in combining theoretical, practical, research and digital components of the training of future teachers. The analysis of such models makes it possible to determine effective pedagogical practices, mentoring mechanisms, forms of organizing pedagogical practice, methods of developing professional reflection and approaches to the integration of university and school education [11].

The relevance of turning to foreign experience is enhanced by the need to modernize the Ukrainian system of professional training of future teachers of labor

training and technologies in accordance with modern European trends, the requirements of the New Ukrainian School and the digital transformation of education. At the same time, the mechanical transfer of foreign models is impractical, therefore an important task is to identify those provisions that can be adapted to Ukrainian socio-cultural, educational and institutional conditions [3].

Thus, the problem of analyzing foreign experience in training future teachers of labor training and technologies for the formation of pedagogical skills is due to the need to find effective ways to combine professional, psychological and pedagogical, practical, research and digital training of the future teacher.

The study of psychological and pedagogical literature demonstrates a steady scientific interest in the problem of professional training of pedagogical personnel in foreign educational systems. Certain aspects of foreign experience in professional training of teachers are highlighted in the works of Ukrainian researchers, in particular O. Galus, I. Zhernokleev, T. Kapelyushna, R. Monko, O. Orekhova, L. Pukhovska, O. Stelmashchuk, L. Shaposhnikova and other scientists.

Studies of foreign models indicate that the training of teachers of a technological profile is increasingly viewed as a continuous process of professional formation, which is not limited to the period of study at the university. In the countries of the European Union, the USA, Canada, Australia, Japan, South Korea and other countries, the professional competence of a teacher is formed through the interconnected acquisition of professional knowledge, pedagogical skills, practical experience and personal qualities.

Scientific works emphasize that the competence of a technology teacher includes knowledge in the field of technology, materials science, construction and design; the ability to design and implement educational programs; mastery of modern teaching methods; the ability to organize project, group and game activities; understanding of the age and psychological characteristics of students; the ability to create a favorable educational environment; the development of creativity and responsibility; confident use of digital technologies; the ability to analyze one's own professional activities and conduct pedagogical mini-research [14].

An important place in the research is occupied by the problem of the practical orientation of professional training. In foreign educational systems, university education is closely connected with real pedagogical activity. Future teachers undergo long-term practice in schools, participate in educational projects, interact with experienced teachers and gain experience in using modern technological equipment.

Researchers also pay attention to the interdisciplinary nature of training. Elements of engineering, design, art, computer science, robotics, digital modeling are integrated into educational programs, which contributes to the development of holistic technological thinking of the future teacher.

Of particular scientific interest are studies of professional training systems for technology teachers in the UK, the USA, Poland, Germany and Norway. Their analysis allows us to identify common trends and specific mechanisms for the formation of pedagogical skills, which can be taken into account in the process of modernization of the Ukrainian system of pedagogical education [16].

Foreign experience in training future teachers of labor training and technologies is characterized by a combination of professional, pedagogical, practical, research and digital components. Educational programs provide not only for mastering theoretical material, but also for the active involvement of students in practical activities, implementation of projects, research, modeling of pedagogical situations and reflection on their own professional experience.

The curricula of many foreign universities use the modular principle and individualization of the educational trajectory. Students can choose individual modules according to their professional interests and future specialization, in particular robotics, 3D printing, graphic design and other technological areas. A significant amount of study time is spent on practical classes in laboratories, workshops, engineering centers and other specialized educational spaces.

Universities actively cooperate with technology companies, enterprises and educational institutions. Students undergo internships, participate in joint projects and have the opportunity to work with modern equipment. Along with professional

disciplines, teaching methods, classroom management, assessment of learning outcomes, organization of an inclusive educational environment, and features of working with students with special educational needs are studied [18].

An important component of professional development is also the system of advanced training for teachers, which ensures the updating of professional knowledge and practical skills in accordance with the dynamics of technological development.

The formation of pedagogical skills of future teachers of labor training and technologies is implemented through a complex of interrelated forms and methods:

1. Educational projects. Students develop and implement educational projects focused on students of general secondary education institutions. Such activities develop the ability to plan the educational process, organize educational activities, evaluate the results obtained and carry out professional reflection.

2. Mentoring. Pedagogical practice is accompanied by experienced teacher-mentors who advise students, transfer practical experience to them, help analyze professional difficulties and find ways to overcome them.

3. Innovative technologies. Future teachers work in specialized laboratories, where they master robotics, 3D modeling, virtual and augmented reality technologies and other digital tools.

4. Portfolio. Electronic or paper portfolios contain projects, methodological developments, video recordings of lessons, reflective materials and other results of professional activity. It is used as a means of self-assessment and confirmation of professional achievements.

5. Role-playing games and simulations. Modeling lessons and pedagogical situations creates an opportunity to gain practical experience in a controlled educational environment.

6. Research activities. Future teachers are involved in analyzing the effectiveness of teaching methods, studying the impact of technology on student development, and developing new educational programs. This contributes to the development of critical thinking and a research culture [12].

Experience of the United Kingdom

A special place in foreign experience is occupied by the United Kingdom, where the professional training of technology teachers is comprehensive and is regulated by relevant regulatory documents, in particular, the «Standard for Entry into Pedagogical Activity» and the «Basic Competencies of a Design and Technology Teacher».

The subject «Design and Technology" integrates technology, traditional crafts, design, information technology, electronics, home economics, and business. In school curricula, it accounts for more than 12% of the total teaching time at different levels of education. The basis of its teaching is the project approach, which involves research, experimentation, problem solving and implementation of integrated projects.

Such specificity of the subject places high demands on the professional competence of the teacher. The teacher must be able not only to teach students to use tools, but also to organize the full cycle of product creation: from problem formulation and planning to production, quality control and evaluation of the result. At the same time, technological, environmental and aesthetic aspects of project activities are taken into account. The teacher must also create conditions for the realization of the creative potential of students, individualization of learning and their involvement in additional and extracurricular activities [5].

In the UK, there are three main models of teacher training for vocational education and technology: parallel, sequential and alternative.

The parallel model is mainly used to train teachers who will work at the first and second key stages of education (KS 1, KS 2), that is, with children aged 5 to 11. It is implemented mainly in teacher training colleges and is widespread in British higher education institutions. The training lasts three years and ends with a Bachelor of Science degree [6].

The sequential model is implemented in art and technical teacher training colleges, as well as classical universities in pedagogical faculties. Its completion involves obtaining a «Postgraduate Certificate of Education».

The alternative model covers innovative ways of professional training, in particular distance and modular programs, flexible learning, accelerated courses and programs for already registered teachers [8, p. 13].

Professional qualifications can be obtained through various educational routes. One of them is to obtain a specialized certificate Postgraduate Certificate in Education (PGCE), which is mainly taught at universities and lasts one year. Another way is to obtain a Bachelor of Education degree, which provides the opportunity to obtain a teacher qualification; the duration of such training is 3–4 years [10, p. 111].

Along with traditional models, alternative programs operate: School Centred Initial Teacher Training (SCITT), which involves training on the basis of a school and the interaction of various educational institutions; The Fast Track programs, which allow you to obtain a teaching qualification in a short time; Employment-based routes, focused on people aged 24 and over and aimed at obtaining the necessary professional training without leaving work [4, p. 112].

The structure of training future teachers of labor training and technologies in British higher education institutions covers four main cycles: professionally oriented disciplines; psychological and pedagogical disciplines; courses aimed at developing practical teaching skills; pedagogical practice in school [11, p. 49].

Pedagogical practice takes up about 25% of the total study time, which indicates its significant importance in professional training. It is organized on the basis of close cooperation between higher education institutions and schools and involves several consecutive stages: initial; familiarization with professional activities; professional growth; generalization and systematization of acquired experience; formation of professional identity.

Practical activity can take place in various educational institutions, which contributes to the expansion of the professional experience of the future teacher. The results of practice are evaluated with the participation of the class teacher, tutor and mentor. Such a mentoring system provides comprehensive support for the professional development of the student [16, p. 15].

Considerable attention is paid to the individual psychological characteristics of the future teacher, his personal qualities and professional needs. Sandwich courses and tutoring sessions are also used in the British system. The first variant of the sandwich course involves two years of university study, one year of school practice, and another year of university training. The second variant is based on alternating study and teaching activities every six months.

The tutoring system involves assigning one or two students to a tutor who not only provides training, but also monitors the professional and personal development of applicants. In some universities, one tutor can accompany up to six students. Consultations, individual conversations, discussions, and other forms of individual interaction are used [8].

An important condition for the professional development of a British teacher is a formed culture of interpersonal interaction. In this regard, educational discussions, group creative activities, and modeling of life situations are used. According to the results of L. Pukhovskaya's research, the main directions of research on the professional development of British teachers can be identified: continuous professional development; deepening the understanding of pedagogical activity and methods of its evaluation; creation of educational and methodological materials for specialists who provide professional development of teachers; preparation of literature for practicing teachers on methods and technologies for increasing the effectiveness of professional activity [413].

Experience of the USA

In the USA, considerable attention is paid to the professional training of teachers of technology and technology and engineering. An important role in this process is played by the Council on Education of Technology Teachers (CTTE) [565]. Its main areas of activity are improving the quality of teacher training, supporting scientific research in the field of technology, providing scholarships, implementing innovative approaches and providing teachers with information resources [3].

Technology teachers are trained, in particular, at Ball State University, California University of PA, Millersville University, University of Wisconsin-Stout, State University of New York at Oswego, Purdue University and other institutions.

The experience of the Faculty of Technology of Ball State University in Indiana is indicative. As T. Kapelyushna notes [6], its educational program is based on the National Standards for Technology Education for Teachers, developed by the International Society for Educational Technology (ISTE), the Indiana State Standards and the INTASC principles.

These standards define the minimum requirements for professional training, which may be supplemented by a variable part of the curricula. Graduates can work in middle school, high school and vocational schools. Their training covers technological disciplines, construction, production, communications, transportation, teaching methods, as well as practical work with natural materials, energy systems, robotics and computer technologies.

The structure of professional training includes the following disciplines: Architecture and Construction Technology, Manufacturing Technology, Design and Engineering Technology, Audio, Video and Digital Communication Technology, Transportation, Distribution and Logistics Technologies. The names of individual courses may vary depending on the state [1, pp. 35–36].

One of the leading methods of professional training is microteaching. It involves studying scientific literature, preparing a short fragment of a lesson, conducting it for 3–5 minutes in front of schoolchildren or classmates, video recording, further viewing and self-analysis. If necessary, the student repeats the fragment, taking into account the recommendations received. As experience is gained, the duration of the fragment can be increased to 20 minutes [9, pp. 72–73].

Microteaching is used in more than 91% of pedagogical programs in the USA. Its advantages are direct involvement of the student in teaching, focus on specific pedagogical skills and the opportunity to work in a safe and controlled environment.

Mini-courses are used to develop individual pedagogical skills. Their implementation involves identifying a skill that needs improvement, studying

relevant literature, performing special exercises, watching video materials, conducting a 5-10-minute fragment of the lesson with video recording and further analysis of the result. This technology contributes to the formation of models of pedagogical behavior.

Another important tool is reflective teaching. Students work in groups of four to six people. One of them plays the role of the “designated teacher”, determines the goal and objectives of the lesson, plans and conducts it, and also evaluates the results of classmates. After the lesson is completed, a detailed analysis of pedagogical actions is carried out. The duration of such a lesson should not exceed 15 minutes, and the results should be available for analysis and measurement [3].

To prepare students to solve real pedagogical problems, the simulation method is used. It involves modeling educational situations, pedagogical stories, and problem cases. The student is familiarized with the characteristics of the students and the problem that needs to be solved, after which he offers several possible options for action [580]. Modern higher education institutions are increasingly using computer simulations that allow modeling real pedagogical situations.

The technology of partner teaching is also widespread, when students conduct classes for their classmates. To develop professional self-presentation skills, future teachers create their own web pages and electronic portfolios, which they systematically update. They may include photographs, autobiographical information, professional views, reflections on modern education, videos, graphic materials, diagrams, tables, and projects [6].

Research [2; 8; 16] allow us to distinguish three main types of portfolios used during university training and pedagogical practice: a working portfolio, a showcase portfolio, and a portfolio for records.

A working portfolio reflects the dynamics of a student’s educational achievements and his professional progress. It may contain feedback from parents, friends, and other individuals and may be used for certification and assessment. A showcase portfolio is a presentation collection and contains the student’s best works. It allows you to demonstrate your creative individuality, professional interests, and

your own projects. The content of such a portfolio is determined by the student himself.

A portfolio for records contains documents related to assessment and certification, as well as works for which the student received grades. Some of these materials may later be transferred to a working portfolio [4]. An important component of the American system is mentoring. The mentor performs not only an advisory function, but also acts as a «cognitive» mentor, guiding the reflective practice of the future teacher. Cooperation between school teachers and university lecturers is especially effective [9].

To support pedagogical practice in the USA, clinical professors function - experienced school teachers who are involved in work in higher education institutions. They guide, observe and evaluate the practical training of students, while continuing to work periodically at school. This gives future teachers the opportunity to observe the real educational process.

The studies of O. Galus and L. Shaposhnikova demonstrate the significant importance of the personally oriented approach in American pedagogical education. Its implementation involves a democratic style of interaction, in which the student is considered as an equal subject of the educational process. His thoughts, views and suggestions regarding the organization of learning are taken into account. Microteaching and reflective teaching play an important role.

Annual professional events also contribute to the support of the professional activity of technology teachers, during which the best technology teacher, the best teacher training program, the best publication and scientific work are determined and awarded [6].

The experience of Poland

Analysis of scientific works [5; 6; 11] shows that in Poland one of the priority areas of professional training of future teachers of technology is the practical component.

The training is comprehensive and provides the opportunity for professional realization not only in the education system, but also in the field of scientific

administration, economy and industry. The ability of the future specialist to effectively interact with other subjects and jointly achieve certain goals is of great importance.

Professional development does not end after graduating from a higher education institution. It continues through internships with experienced teachers and systematic professional self-improvement. The growth of professional competence is associated with career advancement and increased material support. In the system of professional statuses, there are trainee teachers, contract teachers, appointed teachers, certified teachers and professors of education as honorary status [7].

According to the Teacher's Statute, there are the following qualification categories: trainee teacher, contract, full-time and qualified teacher, as well as an honored teacher who can receive a diploma of honorary professor of education. Professional development of a technology teacher in Poland is based on the principle of «supplementation – deepening – actualization». Particular attention is paid to the combination of technical and informational components of professional training, the development of research and search activity, independence and practical orientation of training [12].

The curricula cover three main groups of disciplines. The first group is represented by general education subjects that ensure the formation of a comprehensively developed personality of the future teacher. It includes auxiliary disciplines – philosophy, sociology, politics, economics, foreign language, physical education; psychological and pedagogical disciplines – pedagogy, psychology, technical means of teaching; as well as general education subjects related to the specialty, in particular mathematics, physics and technical chemistry [9].

The second group consists of disciplines of the psychological and pedagogical cycle: labor organization, didactics of technology and individual issues of professional training. They ensure the formation of methodological competence and readiness of the future teacher to work in school and extracurricular institutions.

The third group includes special technical disciplines: modern engineering and environmental protection, technical drawing and descriptive geometry, materials

science, technology, technical mechanics, mechanical science, electrical engineering, fundamentals of electronics, automation and design laboratory [11].

According to J. Shempruh [14], a significant part of the study time is allocated to pedagogical, psychological, methodological and information training. In a five-year full-time program, these disciplines are scheduled from 120 to 405 hours, and in a three-year program – from 195 to 354 hours. The share of pedagogical disciplines is from 6.3% to 16.4% in a five-year program and from 9.0% to 16.4% in a three-year bachelor's program. In particular, 60–90 hours are provided for pedagogy, 45–90 hours for psychology.

The specialized component includes disciplines that deepen knowledge in the chosen direction, for example, «Didactics of Technology». Students can choose them independently. Master's seminars, laboratory and elective classes, monographic lectures and specialized workshops contribute to the deepening of professional training. Pedagogical training is combined with various types of practice: pedagogical – in primary schools and general education lyceums, and technical – in industrial enterprises and consumer service enterprises [5].

The training is characterized by significant individualization: students have the opportunity to independently choose individual disciplines, perform a significant amount of individual work and receive personal support from teachers. In this context, effective pedagogical interaction between the teacher and the student becomes important. Pedagogical practice lasts approximately eight weeks. During its passage, future teachers master the ability to organize the educational process, control its results, adjust their own activities, interact with colleagues, students and parents. Practice can begin from the first year or be carried out from the second [14].

After educational reforms, requirements are put forward for the future teacher of technology regarding the ability to take into account the conditions of a particular educational institution, develop and implement their own interdisciplinary didactic strategy, organize the cognitive activity of students and create favorable conditions for the development of their creativity. An important component of professional competence is the moral culture of the teacher, in particular the ability to find a

compromise [3]. The teacher must be able to communicate effectively with students, understand their needs, control their own emotions and behavior, and also realize that professional mistakes can be corrected through reflection and self-improvement.

Improving professional skills is ensured by participating in open lessons, collaborating with psychologists, exchanging experience with colleagues, taking advanced training courses and other forms of professional development.

K. Denek defines the following groups of teacher competencies: praxeological – planning, organization, control and evaluation of the educational process; communicative – speech skills and their use in pedagogical situations; interaction – the ability to integrated actions in the process of pedagogical interaction; creative – the ability to be innovative and solve non-standard educational tasks [568, p. 49].

M. Yakovitska supplements this list with the skills to reach a compromise, cooperate, communicate openly, predict the development of pedagogical situations, as well as analyze one's own thoughts and actions [16].

Thus, the Polish experience demonstrates the orientation of the professional training of a future teacher of technology on practical activity, individualization, research activity, development of communicative and creative competence.

Experience of Germany

Of particular interest is the system of professional training of teachers of labor in Germany. Since German institutions of higher education use different models of training, it is advisable to highlight their common characteristics.

The German system is focused on a close combination of theoretical and practical components. According to K. Buescher, pedagogical practice is one of the leading means of professionalization of a future teacher and creates conditions for his comprehensive professional self-realization [5].

A characteristic feature is the stationary form of training. Training includes classroom training, teaching practice, state exams, preparation and defense of a thesis, and after receiving a diploma, a two-year internship that takes place in real teaching conditions. In professional training, research, problem-oriented and project

methods, case methods, modeling, portfolios, business games and microteaching are used. Independent search and research work of students plays a significant role.

The organization of training involves various types of lectures - problem-oriented, accentual, explanatory, visual - and seminars: research, discussion, problem-oriented and others [11]. Their common feature is interactivity, which ensures the active participation of students and contributes to the formation of professional skills.

An important place is occupied by goal-setting and life-building technologies that help the future teacher to realize professional tasks, plan his own development and promote the personal growth of students; training technologies aimed at forming algorithms of pedagogical actions; dialogical technologies that help to constructively resolve conflict situations [5].

The orientation of educational programs to work with different categories of students is significant – gifted students, students with special educational needs, extraordinary students, as well as children studying in urban and rural schools. A separate place is occupied by preparation for work in a multicultural environment.

Experience of Norway

According to the results of the study by I. Zhernokleev [1], the training of future technology teachers in Norway is based primarily on activity and dialogical approaches.

The activity approach assumes recognition of the right of each person to find their own way of self-expression, stimulation of activity and orientation on the positive potential of each student. The dialogical approach provides effective pedagogical interaction between the teacher and the student and constant feedback.

An important task is to develop the future teacher's desire for creativity, self-development and professional self-realization. For this, an individual educational trajectory is used. The student independently or with the help of a tutor forms a semester plan, determines courses, terms of their mastery and forms of reporting.

The Norwegian model is oriented towards partnership between participants in the educational process, constructive interpersonal relationships and creation of

conditions for self-realization. Students are actively involved in individual and group projects that develop creativity, communication skills and the ability to work in a team. Cooperation of higher and general secondary education institutions with public organizations and local enterprises is important [8].

A comparison of the experiences of Germany and Norway demonstrates a common orientation towards combining theoretical training with intensive practice, the use of interactive and research methods, and the development of autonomy, reflexivity, and professional responsibility of future teachers. The German model is characterized by a clear sequence of training stages, long-term mentoring and mandatory postgraduate internship, which ensures a gradual transition from training to independent professional activity. The Norwegian system emphasizes individual educational trajectories, interdisciplinarity, critical thinking and practice-oriented methods, including case analysis, portfolio, business games and microteaching.

Comparative characteristics of foreign and Ukrainian experience

A comparison of professional training systems in the UK, USA, Poland, Germany and Norway shows that, despite differences in the organization of the educational process, they are united by an orientation towards practical training, personal development, professional autonomy and adaptability. Person-oriented, activity-based, competence-based, dialogical, interdisciplinary and dual approaches are used.

The Ukrainian system of teacher education is in the process of modernization, which involves strengthening competence orientation and expanding the use of digital technologies. At the same time, compared to foreign models, there is still a need to increase the variability of educational programs, strengthen the practical component, and develop systematic interaction between educational institutions with communities, enterprises, and employers. To systematize the identified features, it is advisable to present the results of the comparison in a table [14].

The analysis shows that the practices of mentoring, clinical teaching, partnership between universities and schools, individualization of educational trajectories, microteaching, reflective teaching, and the use of digital technologies are particularly

useful for the Ukrainian system of training future teachers of labor training and technology.

An important direction for adapting foreign experience is to increase the flexibility of educational programs, expand the possibilities for students to choose educational modules, increase the practical component of professional training, improve the mentoring system, and develop partnerships with educational institutions, local communities, enterprises, and public organizations.

The digital component is of particular importance. In foreign models, digital technologies are not considered only as a technical means of supporting learning. They are integrated into professional training as tools for design, modeling, communication, research, evaluation, and reflection. That is why the training of a future teacher of labor training and technology should include the formation of readiness for professional activity in the digital educational environment of the university.

The analysis of foreign experience in professional training of future teachers of labor training and technologies allows us to identify a number of trends that are important for improving the Ukrainian system of pedagogical education. Firstly, foreign educational systems are oriented towards personally oriented, activity and competence-based approaches that involve the active participation of the student in the educational process, the development of his autonomy, creativity, critical thinking and the ability to professional reflection.

Secondly, a characteristic feature is the integration of theoretical and practical training. Pedagogical practice is not considered as the final stage of training, but is a systemic component of the professional development of a future teacher. Internship, mentoring, tutoring, clinical teaching and gradual involvement of students in real pedagogical activity are of particular importance. Thirdly, an effective means of forming pedagogical skills is the active use of interactive and reflective technologies: microteaching, simulations, role-playing games, case method, reflective teaching, educational and professional projects, portfolios and research activities.

Fourthly, foreign experience demonstrates the need for individualization of professional training. Students are given the opportunity to form their own educational trajectory, choose specialized modules, determine areas of professional development and receive individual support from a tutor or mentor. Fifthly, an important component of modern training is interdisciplinarity. The training of future technology teachers combines knowledge from pedagogy, psychology, engineering, design, art, computer science, robotics, materials science and other fields. This approach ensures the formation of complex professional thinking.

Sixth, foreign models demonstrate significant opportunities for integrating digital and innovative technologies into professional training. The use of digital platforms, robotics, 3D modeling, CAD, VR/AR, electronic portfolios, and digital simulations contributes to the formation of future teachers' readiness to work in a modern educational environment. Seventh, partnerships between universities, schools, enterprises, public organizations, and local communities play an important role. Such interaction creates conditions for bringing professional training closer to the real needs of educational and technological practice.

Comparison of foreign models with the Ukrainian system shows that Ukraine is already transitioning to a competency-based and digital paradigm of teacher training, but there is still a need to further expand the variability of educational programs, strengthen the practice-oriented component, develop the mentoring system, and deepen cooperation with general secondary education institutions and employers. Studying foreign experience is especially important for improving the training of future teachers of labor training and technologies for the formation of pedagogical skills in the digital educational environment of the university. It is advisable to adapt to Ukrainian conditions the most productive practices of mentoring, clinical teaching, partnership between the university and school, individualization of educational trajectories, microteaching, reflective learning, and digital modeling.

At the same time, an analysis of scientific sources shows that the problem of training future teachers of labor training and technologies for the formation of pedagogical skills in the digital educational environment of the university has not yet

received sufficient theoretical, methodological, and practical development. Existing research mainly highlights individual aspects of professional, technological, pedagogical or digital training, while their systematic combination requires further scientific substantiation.

Thus, foreign experience creates the basis for the development of a modern model of professional training of future teachers of labor training and technologies, which should be flexible, practically oriented, innovative, digitally integrated and aimed at the development of pedagogical autonomy, reflexivity, creativity and professional responsibility. The above provisions determine the need for further substantiation of the conceptual and methodological foundations of such training, which corresponds to modern national priorities and trends in the development of the global educational space.

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To chapter 2

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Vydavatel:
Publishing house Education and Science s.r.o. IČO : 271 56 877.
Frýdlanská 15/1314 , Praha 8. MS v Praze , oddíl C,vložka 100614

Cross-Disciplinary Studies in Science, Innovation and Social Development

Volume XXI

Signed for printing on September 29, 2026.

Format 60x90/8. Headset Times New Roman.

Mental printing. arc. 12,60. Edition online.