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THE DIDACTIC CONCEPT'S BASIC IDEAS OF DIGITAL VOCATIONAL EDUCATION AND TRAINING

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1. Three sources of digital didactics: digital generation, digital technology, digital economy

Digital didactics is the science of organizing the learning process in a digital society. Digital didactics consistently uses the basic concepts and principles of traditional (pre-digital) didactics as a science of learning, supplementing and transforming them in accordance with the conditions of a digital environment.

The factors determining the need for digital didactics of vocational education and training are the following three components of a digital society:

- digital generation (a new generation of students with special socio-psychological characteristics);
- new digital technologies that shape a digital environment and develop inside it;
- the digital economy and the new personnel requirements generated by it.

The existence of a significant gap between the pre-digital and digital generations is a fact that must be taken into account in the framework of education. On the one hand, representatives of the pre-digital generation have difficulty integrating into a digital society; on the other, the digital generation is not ready to integrate into the pre-digital educational process. The distinctive features of the digital generation (perception, attention, thinking, motivation, behavioral patterns, lifestyle, worldview) determine the psychological and pedagogical specificities of goal setting, the principles, the approaches to the formation of content, and the forms and methods of digital didactics. It is important not only to identify the negative aspects of the influence of digital technologies on the development, socialization and upbringing of 'digital children' (their infantilism, mosaic thinking, a tendency to mix real and virtual spaces, the phenomenon of 'digital asociality', etc.), but also to understand the superior characteristics of the digital generations in order to rely on them in the educational process.

Digital ('advanced', 'smart') technologies are now at the forefront of technological development, and in the foreseeable future they will retain their dominant role. The process of digitalization – a profound convergence of digital technologies with material and socio-humanitarian technologies and practices, including educational ones - is actively developing.

In this connection, the following technologies used in vocational education and training should be distinguished:

- firstly, information and communication technologies (ICT) for universal purposes, such as office software, graphics editors, Internet browsers, telecommunications facilities, augmented reality, etc.;
- - secondly, pedagogical technologies involving the use of ICTs or based on their use;
- thirdly, production technologies (including digital ones), which develop the necessary professional competencies, knowledge, abilities and skills of the students.

Many digital technologies have didactic properties (interactivity, multimediality, hypertextuality, individuality, subculturality, etc.), thus creating opportunities for using them to organize an educational process that focuses on the characteristics of a digital society.

> One of the most important objectives of digital didactics is to gain comprehensive understanding, in a continuous mode, of the didactic potential of new digital technologies, equipment and instruments, which are constantly emerging and improving, as well as of the specific ways of using them in order to achieve pedagogical goals and to address the current issues of the educational process.

The digital economy is the main source of goal-setting for vocational education and training. The digitalization of the economic sphere gives rise to some noticeable shifts in the structure of demand for education, thus emphasizing the need for developing a set of new digital

competencies, regardless of the chosen profession or specialty. This new set, in addition to the 'IT competencies' *per se*, which ensure that the employee is prepared to use a computer and digital technologies, also includes a wide range of other competencies (both professional and universal), the content of which has been substantially transformed under the influence of digitalization.

In the context of digitalization, the logic of the production process also changes, it ceases to be discrete, cyclical and reproducible, acquiring instead the characteristics of complexity, continuity and continuous development, and so the graduates are required to develop a different type of thinking. The processes of 'time-space compression', globalization caused by the spread of digital telecommunications, the emergence of new models of work organization (co-working, remote offices, distributed project teams, freelance, etc.) are creating some fundamentally different requirements for employees, including those that have to do with their level of independence and responsibility, and thus pose one more serious 'digital challenge' to the vocational education system.

And finally, digitalization (automation) of routine operations leads to a decline in the demand for labor functions associated with simple mechanical actions and to an increase in the intellectual and creative components in all the areas of professional activity where these cannot be replaced by machinery. So, the demand for those competencies that have to do with creating tasks to be executed by machines and digital devices is on the rise. Generally, the following trend can be observed: the more a company uses digital technologies, the higher are the requirements to the professional level of employees.

2. Digital didactics, in contrast to 'digitized' didactics, focuses on the principle of pedagogical expediency

The use of digital technologies in itself does not lead to a significant increase in the effectiveness of the educational process. On the contrary, some cases have revealed the existence of a distinct pattern where 'automation, when implemented in inefficient processes, makes them even less efficient'. This superficial way of using digital technologies, which is reminiscent of the bygone tradition of using TSAs (technical teaching aids) in the educational process, in contrast to 'digitalization', can be called 'digitization'.

Since the 1990s, it has become a kind of fashion in didactics to promote digitization of traditional lectures, textbooks, tutorials, test control systems, etc. In every case, an ineffective 'digitized' didactic practice is characterized by a combination of some or all of the following features:

- firstly, the use in a digitized form of the traditional didactic elements of the educational process (content, forms and teaching methods), without any fundamental transformation;
- secondly, the use of universal information and communication technologies that are not focused on achieving some specific pedagogical goals;
- thirdly, a lack of scientific understanding of the first two points.

Thus, a 'digitized' didactic practice builds upon an empirical choice of available didactic components of the educational process (its content, forms and methods) in combination with available information and communication technologies.

Unlike the 'digitized' traditional didactics, genuine digital didactics results from rethinking and profoundly transforming the existing educational process.

The main direction in the development of educational process digitalization is the simultaneous transformation of the elements of the educational process, on the one hand, and of the digital technologies and tools used in the educational process, on the other.

The purpose of the educational process transformation is to put to maximum use the potential of digital technologies in order to achieve pedagogical goals. The purpose of the transformation of digital technologies is to maximize their adaptation in order to efficiently implement the pedagogical goals.

Vocational education and training is faced with the risk of 'digitization' of the vocational training process, where through the use of a set of simulators and other meta-digital technologies (hardware and software systems), the process of developing professional competencies is transferred from a real professional context into a virtual environment. But in order to achieve the goals of vocational education – the mastering of professional competencies, promotion of professional and personal self-determination, professional identification, and social and professional adaptation of a young person, it is necessary to rely on a flexible combination of digital, material and pedagogical technologies.

> Digitalization that aims at educating, training and developing an individual who will be a representative of the digital generation, and equipping him or her with social and professional competencies that are in demand in the digital society, should not be replaced by digitization that is reduced to solving some utilitarian tasks of making the educational process cheaper, simpler, and more easily manageable.

At the same time, in addition to pedagogical goals, the digitalization of vocational education and training can and should be utilized as a means of achieving other results, which are also significant for the customers and participants in the educational process (shortening the time required to master the educational programs, relieving the teacher of performing some routine operations, shifting the least significant content (its supplementary or secondary components) into the domain of electronic educational resources, etc.). Thus, digitalization of education should essentially be understood as an improvement in the quality of the social and didactic components of education, rather than the administrative ones.

3. The subject of digital didactics: the organization of students in a digital environment and the management of learning motivation

> A digital educational environment is a set of conditions and opportunities for individual training, development, socialization, and education. The extent to which the pedagogical potential of this environment can be put to good use depends on the students' individual activity and educational independence.

The students enrolled in secondary vocational education programs are characterized, as a rule, by a low motivation and low willingness to use the potential of digital educational environment and the related tools and activities in their learning process. So, the creation of a digital educational environment with a variety of possibilities is a necessary but not sufficient condition for organizing a pedagogically effective digital educational process. It is also necessary to create a system of organizing the activities of students (the learning process) in the digital environment, and this is the core subject of digital didactics.

The digital educational process, when organized in such a way, makes it possible to achieve a significant progress in solving the problem of educational motivation of students. This is facilitated, firstly, by creating strong opportunities for achieving success in training through individualization of the educational process. Secondly, there is the motivating factor of an immediate feedback (diagnostic, evaluative, recommendatory, corrective) that digital learning technologies can provide directly to each student after they have completed their learning

assignment. Thirdly, the use of digital technologies in the educational process is better perceived by the digital generations (provided that there is no discrepancy between the complexity, diversity and dynamism of the educational content and forms of educational activities offered to students and the complexity, diversity and dynamism of the digital technologies used in the course of those activities, and the virtual reality used in the educational process is something more than a simple digitized version of traditional pedagogical reality). Fourthly, in the framework of a digital educational process, the range of special techniques for managing learning motivation can be substantially expanded, including by using gaming surroundings, interaction with the partners inside the network, creation of training teams, etc. Thus, it is possible to provide a high learning motivation even in the course of completing stereotypical tasks, training routine skills, etc.

4. The means of digital didactics of vocational education and training: personalized educational process, digital learning technologies, meta-digital educational complexes

The changes in the organization of the educational process in the context of digitalization are essentially oriented to increasing its pedagogical effectiveness. This can be achieved, first of all, through individualization of training - the transformation of a single and universal educational process that targets all students into a set of individualized educational routes, organized in such a way that they should take into account, on the one hand, the personal educational needs and aspirations of the students, and on the other, their psycho-pedagogical and medical (for students with disabilities) individual features. Digital technologies can provide an almost infinite number of directions for individualized instruction, including those based on its content, the rate of development of educational material, its complexity, the method of submitting educational material, the form of organization of educational activities, the composition of the study groups, the number of repetitions, the degree of external assistance to students, the openness and transparency for the other participants in the educational process, etc. It is important to ensure that all these areas of individualization can be implemented simultaneously, thus making it possible to customize the educational process for each individual student.

In online learning systems, this approach should supposedly be provided by the so-called ‘adaptive learning systems’ based on the idea of reproducing personal learning models by means of complex algorithms.

> An important task of digital didactics is to transfer the ‘adaptive’ approach into the full-time educational process of vocational education and training.

The individualization of vocational education and training based on digital technologies will ensure an easy and natural transition to a post-industrial professionalism model, where a profession is no longer understood to be a standardized set of labor functions and actions, required knowledge, and skills, and becomes a dynamic personalized set of individual competencies.

The digital educational process of vocational education and training is implemented on the basis of a set of pedagogical technologies, among which we may distinguish, on the one hand, the digital methods (applied, for example, in the organization of student research activities, case studies, etc.), which may involve the use of ICT as an auxiliary pedagogical tool, but without a significant modernization of those pedagogical technologies.

On the other hand, there is a group of pedagogical technologies born of digital innovations, which stand out and owe their origin to the digitalization process, i.e. they are based on the use of digital means (multimedia essay as an extension of the idea of a traditional essay; virtual tour as a modernized version of a traditional excursion; educational telecommunication project; flipped learning, etc.).

> The development and testing of ‘digital-born’ pedagogical technologies is one of the most important tasks of the digital didactics of vocational education and training.

The digitalization process has provided a qualitatively new opportunity for ‘packaging’ the educational material and educational activities, as well as given rise to some fundamentally new educational needs. Under these conditions, the didactic value of various technologies and teaching methods becomes differentiated. The role of long-time uniformly structured activities or ‘passive’ forms of academic work, such as a lecture, is noticeably reduced. On the contrary, the role of pedagogical technologies based on students own activity (interactive communication, teamwork, group and individual reflection), which are characterized by a complex structure and a certain internal scenario (such as student project activities (in all possible variants), game teaching technologies, case solving, group discussions, etc.), is becoming increasingly prominent. All these technologies allow the students to develop a set of social competencies that are necessary in a digital society.

Thus, in the digital vocational education and training process, meta-digital (software and hardware) complexes are gaining in importance; they are used either in a classroom setting (simulators, training devices, augmented reality tools, sensors that record the quality of a particular labor action, etc.) or for the purposes of on-site training in the course of the production process at an enterprise. The use of such complexes is a necessary condition for developing the professional skills of students that they will be using later on, when working in their chosen professional field (or specialty).

> Among the tasks of digital didactics, there is that of correctly determining the optimal ratio and order of the virtual and real-world professional components of the educational and production process, identifying the conditions for deriving maximum pedagogical effects from the use of available meta-digital educational complexes, and creating the pedagogical demand for their modernization and the development of new ones.

One of these conditions is the creation of a single production-and-training digital environment, to be jointly used by the ‘employer enterprise’ and the educational establishment (or educational program).

5. ‘Complete mastering’ is the pedagogical goal of digital didactics when applied in vocational education and training. E-learning as a # 🗑 ‘basket’ of a practice-oriented educational process

The general goal of the practice-oriented vocational education and training programs is to develop the professional qualifications or a specific set of labor functions of each student. Moreover, the established educational targets must be met in order to make the graduates fully prepared for their immediate inclusion as full-fledged participants in professional labor processes. The digitalization of the educational process, from this point of view, should provide the possibility of implementing the didactic technology of ‘full assimilation’. Thus, the ‘focus’ of the educational process is the phase of consolidation, which ensures a complete mastery, by each student, of all the given educational results at the required level of development.

In order to focus the educational process on the consolidation phase, the following methods can be applied: the use of electronic educational resources in the context of explaining new material (flipped learning); the allocation of the maximum possible number of classroom hours to the phase of consolidation, thus ensuring full-time interaction of the teacher and students; the search for the optimal ratio of group and individual forms of consolidation, of independent and tutor-supervised work, and of computerized course revision sessions and reflective self-evaluating activities.

> The task of digital didactics is the development of digital tools that help to automatize the

routine elements of consolidation while simultaneously boosting the motivation of students and protecting them from the monotony effects associated with the process of consolidation.

These tools can be as follows: gaming vs. realistic environment; the selection of an individual rhythm and pace of work; pauses; multimodality as the simultaneous use of all perception channels; instant performance assessment; multiple difficulty levels, with the possibility of making a choice of any of them, or an automatic transition between the levels; the possibility of individual selection of training tasks based on the characteristics of each student, their preferences or specialization, etc.

The focus of the classroom component of the educational process on skill consolidation requires that its other components (explanation of new material, monitoring of educational results) should be converted to electronic format.

Those components of the vocational educational process that are only loosely related to its practical orientation and/or are secondary in importance (e.g., some sections, topics of general subjects, certain optional courses, etc.) can be transferred to the e-learning space. This is feasible because the format of e-learning, regardless of the pedagogical technologies used in its context, is quite appropriate for the introductory level of studying, and thus it becomes possible to reduce the hours of full-time educational process that involves the use of active, interactive and practical methods and the presence of a teacher in the classroom.

6. The priority of forms and methods of teaching over its goals and content

In the didactic triad 'expected results - content - forms and methods', the digitalization process shifts the focus to the forms and methods of instruction. The central issue of building a digital educational process is '*How* to teach?'

The paramount importance of forms and methods of learning in the digital educational process is manifest in the following areas.

- Firstly, the priority of forms and methods of teaching over its goals and expected results means a certain liberalization of the learning goals associated with the individualization and personalization processes (the idea of 'free-range learning', by analogy with the well-known pedagogical concept of 'free range parenting').
- Secondly, there is the phenomenon of the teaching forms and methods acquiring the properties of the content that is being taught (the idea of activity-based learning content). The pedagogical technologies, as such, are becoming the elements of the content to be mastered. Thus, from the point of view of pedagogy, there is no sense in talking about communication or teamwork; instead, the learning technologies that make it possible to actually understand 'how they work' must be applied.
- Thirdly, the group (team, collective) forms of work become the most important ones.

The variety of organizational forms of educational activities in the context of digitalization significantly increases, they become more dynamic (groups with varying number of members, spatially distributed training teams, various scenarios of a quick transition from group activities to individual activities and vice versa).

In this connection, the structural complexity of the forms of instruction that are being used should increase as the students progress through the phases of the educational process.

Thus, one of the directions of the transformation of the educational process in the context

of digitalization is to increase the degree of structuring of educational activities, which, in turn, significantly increases its pedagogical effectiveness. In this case, the following pattern becomes evident: the complexity of the forms and methods of teaching should match the complexity of the training tools used.

The educational process, when based on the use of digital means, requires that the teacher should be able to design and apply, depending on the specific pedagogical task at hand, a variety of forms, teaching methods and specific learning tasks that make possible the transition:

- from the simple to the complex, and from the complex to the simple;
- from the general to the particular, and from the particular to the general; from a single image to a sign system, and from a sign system to a single image;
- from individual forms to group forms, and from group forms to individual forms;
- from working with external support to independent assignments, and from independent assignments to supporting other students;
- from virtual simulation of production facilities and processes to real-world processes, and in the opposite direction - to their abstract concepts and digital models;
- from learning assignments to production tasks, and from production tasks to their reflective understanding in the educational process context.

7. Personalized learning assessment

The assessment of the effectiveness of learning in the digital educational process is carried out in three directions: formative assessment, personal digital footprint, and multi-level monitoring.

Digital technologies make it possible to transform learning assessment into a continuous personalized process that can be, whenever necessary, either comprehensive (generalizing) or selective. The most important characteristic of this process is the operative feedback, whereby the students are provided with information about the quality of the learning assignments that they have just completed, and, if necessary, the specific recommendations as to how their actions should be adjusted (formative assessment). The information about the quality and effectiveness of ongoing learning activities is transparent for the teacher, as well as (in pedagogically appropriate situations) for other subjects of the educational process – the foreman, the teacher-psychologist, the group curator (class teacher), and the student's parents.

All the phases of consolidation and control (current assessment) of the learning outcomes are integrated into a single process, thus providing a successful solution to the problem of 'complete knowledge assimilation'. At the same time, the diagnostic, formative and motivating functions of learning assessment come to the fore and become a priority.

In addition, formative assessment can be used to shape and develop the reflection and self-evaluation skills of students.

> The development of formative assessment tools for different types of educational activities is an important task of digital didactics.

In the context of vocational education and training, a significant part of the process of professional skill development can be fully automated by using the formative assessment technologies. However, the computerized forms of assessment alone are not sufficient for the final assessment of a given set of professional and general competencies; this requires an expert evaluation carried out by specialists with specific qualifications.

The digital footprint technology is of great importance in digital didactics, because the longitudinal study approach thus become the norm of the educational process, when the individual development indicators and student learning outcomes are recorded by way of formative assessments in the 'accumulative' mode. Big Data technologies then summarize this information in order to monitor the educational process:

- on the one hand, at the level of a group, course, department, educational establishment, educational network;
- on the other hand, at the level of an educational module, educational program, a specific type or profile of educational programs at the regional level, etc.

It becomes possible to both monitor the dynamics of changes and conduct a comparative analysis. The obtained data can be used for operational improvement of the educational process.

8. From the narrative to infographic way of information packaging

The processes of digitalization and the formation of a global information environment have given rise to new ways of 'packaging' the educationally significant information in order to make it more compact and convenient for quick perception and use. Representatives of the digital generation already assimilated (internalized) these methods in their early childhood, as a result of which the thinking style of students is changing. It has ceased to be narrative (based on a written story, a detailed verbal 'explanation of new material', and independent studying of voluminous texts), and is becoming infographic. This transformation is still frequently perceived in the collective consciousness of the pedagogical community to have negative psychological and pedagogical attributes ('clip' or 'mosaic' thinking, etc.), but it is based on an objective process that has not only negative aspects, but also some positive ones.

Infographics, in contrast to narrative, allows the use of a more complex logic (non-linear, multidimensional, network); it better reflects the essence of an interdisciplinary, integrated approach to learning. The compactness and relative autonomy of the infographic forms of presentation of material ('chart', 'slide', etc.), in contrast to the narrative (textual) forms, is more consistent with the modular, 'molecular' format of modern competencies, which are combined in different ways in different professions. The use of a predominantly infographic, visual-logical type of thinking allows us to provide a quick, albeit approximate, solution to complex multisystem problems in cases when the available information is essentially incomplete, and this approach is becoming widespread in our dynamic and uncertain world. In fact, this is a manifestation of the creative, intuitive thinking of modern man, which is increasingly in demand as more and more routine operations in any production process are taken over by automation.

The traditional narrative way of delivering educational material ceases to be pedagogically effective in the context of a digital educational process. Lectures (especially those that simply reproduce education material and do not contain a prominent problem-solving and/or interactive component), as well as voluminous educational texts, inevitably shift to the periphery of the educational process. Their place is taken over by infographic presentations, including those that are created by the students themselves while learning new material, working on educational projects, completing unsupervised individual and group assignments, etc. In a sense, digital technologies make it possible to personalize the well-known idea of 'conspectus' and to bring it to a qualitatively new didactic level.

> The development of approaches, principles and methods of pedagogically appropriate use of infographics in the educational process, as well as the methods and means of developing combined figurative and logical thinking, is one of the tasks of digital didactics.

9. The human factor in the digital educational process: the teacher as an intermediary between the digital and the real world

One of the central problems of the digital didactics of vocational education and training is how to determine the place, role and function of the teacher in the digital educational process.

To solve this problem, you must first answer the question: 'What cannot be digitized in the educational process of vocational education?' The answer can be as follows:

- firstly, the process of shaping and developing social competencies, which requires that communication and interaction be conducted not only via telecommunications, but also in a real-world environment of human communication, filled with emotions, conflicts of interests, conflict triggers, requiring empathy, reflections, instant and adequate human reactions, etc.;
- secondly, the process of shaping and developing the specific and universal professional competencies of the student.

The process of forming professional competencies requires the student to be immersed in a real-world social and professional context, to be directly involved in the production process, to be part of the production and workplace team, and to be included in the entire system of social and labor relations of a modern worker.

There is a contradiction (and apparently, it is going to become more pronounced) between the established requirements for student socialization and professionalization, on the one hand, and the isolation of a typical representative of the digital generation in the virtual reality, virtual network, and virtual gaming world, on the other. This defines the leading professional function of a teacher as an intermediary between the virtual and the real worlds, a mentor, a navigator in the real social and professional world, and a kind of 'integrator' of the various living spaces of the digital generation. As a result, the organizational competencies of teachers, their ability to manage the external factors of learning, to create an educational environment offering multiple developing opportunities, to design learning scenarios based on diverse and dynamic forms of organization of educational activities, to select the optimal order of using digital and non-digital technologies, and to create a variety of contexts where communication becomes educationally meaningful, etc. are increasingly gaining in importance.

The second significant function of the teacher in the digital educational process is the management of learning motivation. The use of digital technologies in itself can only create situational short-term motivation for learning. The formation and development of sustainable motivation for learning, self-education and professional performance of students can be done only by the teacher as an individual - firstly, as an epitome of a 'successful adult' and 'successful professional', and secondly, by using a set of special techniques designed to maintain learning motivation during individual and group work of students (emotional, social, or based on pragmatic considerations concerning their future professional career). Meanwhile, the traditional 'punitive' function of a teacher, exercised through 'negative marks', evaluation comments, and constant petty quibbles must become a thing of the past.

Thus, the teacher in the context of digital educational process becomes primarily the organizer and motivator of learning. The traditional functions of the teacher as a 'source of knowledge', informant, explainer, and reproacher have lost their significance. At the same time, in the context of digitalization, a number of new pedagogical functions have emerged, such as a network teacher-curator, digital tracker, etc.

A significant task of digital didactics is the creation, description and continuous updating of a dynamic package of teacher competencies, which should develop in line with the

digital educational process.

The automation of routine processes, which is one of the central trends in universal digitalization that affects the educational process, has translated into an increase in the degree of freedom of the teacher, requiring from the latter a higher degree of creativity. As the educational process becomes increasingly digitalized, the 'lesson-oriented' teachers who are inclined to implement the traditional methods of reproducing educational material and to rely on formal principles, will gradually be ousted from the educational process. They will be replaced by better qualified and creative teachers who are not prone to stereotypically reproduce the standard methods, and who act instead as carriers of the values of continuous self-education and professional and personal development.

10. From the dictatorship of means, their producers and sellers, to designing a well-substantiated pedagogical demand

A serious obstacle to the development of a didactically sound concept of digital education can be a lack of adequate interaction between the developers and consumers of digital educational products. Instead, an imposition of digital products on the educational sphere sometimes takes place, due the unpreparedness of the latter to a close cooperation with their developers. It often happens so that digital product developers, guided by the idea of a broadly understood 'provision of services', consider education only in the context of 'services', not being familiar with the scientific foundations of the educational process organization, its pedagogical goals and didactic principles. As a result, numerous digital learning products find their way into the 'digitized' didactic practices, rather than becoming part of digital didactics, and do not pursue the goal of providing the most effective solutions to both new and 'eternal' pedagogical problems.

The development of digital educational products for the vocational education and training system should be based on a systemic analysis of the following:

- its educational needs and goals,
- the specific features of the digital generation, the capabilities of students and teachers,
- the actual and potential didactic properties of various digital technologies,
- the didactic principles and features of the educational process in the context of vocational education and training.

The solution of this problem requires the creation of a new job – that of methodologist-architect of digital teaching aids, who will act as a qualified intermediary between the pedagogical community (who are specialists of didactics) and digital product developers. The main task of the methodologist-architect of digital teaching aids is to identify the current deficiencies in the educational process practices and to write technical specifications in a language that would be understandable for the developers, so that they could create digital educational tools that are really necessary for solving urgent pedagogical problems. Such a specialist should be well versed in didactic theory and educational practices, have a good understanding of the capabilities of digital technologies, including the most modern ones, and possess the skills of system analysis and constructive communication.