

DIDACTICS OF DIGITAL EDUCATIONAL PROCESS

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АННОТАЦИЯ

Цифровая дидактика в данной статье рассматривается как раздел профессиональной педагогики, показаны основные задачи и принципы образовательного процесса. В статье представлены возможности применения симуляционных технологий в процессе обучения студентов технических направлений подготовки. В размещении образовательного контента в сети Интернет и образовательной эффективности обучающихся текущий спрос подчеркивается увеличением.

Ключевые слова: цифровизация образования; принципы цифровой педагогики; мультимедийных проектов; платформы цифровой педагогики. дидактическая цифровая педагогика, учить и учиться, цифровое обучение.

INTRODUCTION

The digital adds another not-at-all-discrete meta-level layer. The tools we use for learning, the ones that have become so ubiquitous, each influence what, where, and how we learn — and, even more, how we think about learning. Books. Pixels. Trackpads. Keyboards. E-books. Databases. Digital archives. Learning management systems. New platforms and interfaces are developed every week, popping up like daisies (or wildfires). Some students are tech-savvy, especially if their major is technology-oriented. There are many other students, however, who are not inherently good at or comfortable with using technology in course work, despite being proficient with certain technologies like social media. Therefore, do not make assumptions about their technical abilities.

Digital pedagogy demands that we rethink power relations between students and teachers — demands we create more collaborative and less hierarchical institutions for learning — lest we use computers to replicate the vestigial structures of industrial-era education.

The goal setting of digital vocational education and training has the following features.

Firstly, the main factor in goal-setting of the digital educational process is the set of requirements imposed to graduate in digital economy and digital society.

Secondly, educational goal setting in the context of digitalization should be based on the study and maximum use of constantly emerging new opportunities that arise in communications using digital technologies.

Thirdly, approaches must be developed to resolve contradictions between the need to fix certain educational goals (as “technical specifications” for the development of educational programs and the construction of the educational process) - and the constant change in requirements for a graduate in a situation of dynamically changing technical, technological and socio-economic conditions, taking into account factors of complexity, variability, and uncertainty. It is necessary to develop such models of vocational education and training that would successfully function in conditions of open and “floating” didactic goals.

Fourthly, educational goal setting in the context of digitalization should be aimed, among other things, at minimizing the psychological, pedagogical, social and didactic risks that the process of transition to a digital society brings with it. Thus, it is necessary to take into account the fundamentally new educational tasks that the digital era poses to education, for example:

- development of readiness for continuous changes (adaptability, tolerance of uncertainty), which requires a certain transformation of the usual value system;

- education of social responsibility in the system of relations

“person – digital means – society” (fundamentally different from the traditional “person – society” system), where there is a high risk of manipulation or exploitation of a person by a person using digital means;

- formation of an internal boundary between the virtual and real worlds, development of the ability to differentiate these worlds and the corresponding types of responsibility;

- pedagogical support for the process of network socialization student, adjacent to the process of his traditional socialization in the real world, and the formation of a culture of network communication;

- formation of a digital segment of valueological culture, which can be conditionally called “digital hygiene skills”;

- development of the ability to critically analyze information and filter information noise, advertising, customized information dumping, etc [1].

The digital economy and digital society present a voluminous, dynamically changing set of requirements for graduates of the vocational education and training system, on the basis of which two fundamentally different types of didactic goals (expected educational results) can be formed. In this case, secondary vocational

education is necessarily focused on achieving both types of goals; Additional vocational education and vocational training can be focused on achieving only one type of goal, or both[2].

Digital didactics of vocational education and training continuously relies on the system of traditional didactic teaching principles, transforming them to the conditions of the digital educational process, and also introduces a number of new principles.

1. **The principle of dominance** focuses on self-reliance student's educational activities in a digital educational environment. The teacher needs to organize the educational process, support and help the student in the learning process.

2. **The principle of personalization** presupposes the student's ability to independently determine the purpose of learning, choose the strategy of the educational process, the pace and level of mastering the educational program. This approach will allow the teacher to track the student's personal development indicators and educational results.

3. **The principle of expediency** intersects with the traditional didactic principle of purposefulness: in the learning process it is required to use only such digital technologies that maximally ensure the achievement of the set goals in the educational process of a particular student. This principle does not imply the use of ineffective pedagogical technologies and means without clearly defined educational goals.

4. **The principle of flexibility and adaptability** allows you to develop an individual approach depending on the conditions of the digital educational process. The digital educational process allows you to automatically adjust the program to each student, taking into account such aspects as the order, method and pace of providing educational material. This principle also takes into account level and nature of teacher support.

5. **The principle of success in learning** intersects with the didactic principle of strength and requires the achievement of set goals, as well as the complete assimilation of knowledge, skills and abilities. In the digital educational process, this principle is the final element in the didactic chain "explanation - reinforcement - control". Additional study hours are allocated to reinforce the material, and face-to-face meetings between teachers and students are often organized. The teacher monitors closely optimal balance between group and individual forms of reinforcement. Digital tools significantly speed up this process and make it less routine

6. **The principle of learning in cooperation and interaction** (analogue of the didactic principle of interactivity) requires the construction of the educational process on the basis of active multilateral communication - real and online - between the teacher and the student. This principle involves the use of group forms of network training.

7. **The principle of practice-orientation**, directly related to the traditional didactic principle of connecting learning with life, requires a clear setting of goals and specific results.

To do this you need to organize:

- a) stopping learning goals, tasks and problem situations;
- b) practical tasks;
- c) consolidation of acquired knowledge in “combat” conditions, that is, on an ongoing project or enterprise.

8. **The principle of increasing complexity**, which correlates with the didactic principle of accessibility, systematicity and consistency, implies a sequential transition:

- a) from simple to complex and from complex to simple;
- b) from general to specific and from specific to general;
- c) from individual to group and from group to individual and other learning processes.

9. **The principle of a rich educational environment requires** excess information resources for building an individual learning strategy. Such redundancy can be realized using a network educational resource - a single information educational environment.

10. **The principle of multimodality** (multimedia) is a more developed didactic principle of clarity and involves visual, auditory and motor (kinesthetic) methods of perception in the educational process. To do this, various devices are used, such as simulators, sensors, simulators, as well as augmented reality tools.

11. **The principle of included assessment requires** continuous assessment of the student’s success throughout the entire educational process. Digital technologies provide instant feedback, continuously transmitting to the teacher the necessary data on the results of completing the task. Thanks to this, the teacher draws conclusions about strengths and weaknesses of the student, allowing you to adjust development scenarios and immediate educational goals directly during the learning process. Thus, digital technologies ensure objectivity and transparency of the final assessment of the implementation of one or another tasks[3]. p 63-71

At the initial stage, methodologists were very enthusiastic about the possibilities of introducing technology: there were many predictions about replacing the teacher with a computer, which led to negative negative reactions to the INTRODUCTION of technology into classrooms. Teachers began to explore the potential of new technologies in teaching and learning: technology contributed to the development of independent students and allowed the creation of a digital learning regime. Teachers are now taking on the role of moderators, and technology is becoming more than a tool: it is changing how and what students learn. Using a computer does not make learning

effective on its own - you need to understand how to use technology effectively and choose the right technology to achieve the desired learning outcomes. Digital pedagogy is the study of how to teach using digital technologies.

In the process of digital collaboration, the main emphasis is on nurturing partnerships and involves compliance with a number of the following principles:

– learning without coercion – the student himself makes decisions regarding his educational level (what level / tasks are differentiated / and how he will perform educational tasks);

– absence of negative assessments (if active, completes tasks correctly according to schedule);

– the idea of free choice - the student decides for himself what task to solve and in what quantity, and can also independently create tasks for himself, choose those that are interesting to him(her);

– the idea of advance – the student gets acquainted with educational topics disciplines in advance, and will carry out advanced preparation;

– the idea of large blocks – the educational process does not consist of separate contents or trainings, but of blocks of “immersion” in different topics;

– the idea of an appropriate form – each topic of an academic discipline is implemented in form in accordance with the chosen topic;

– intellectual background of the class – joint activities in the digital educational process and beyond – visiting a virtual excursion, etc[4].

CONCLUSIONS

Digital technologies provide instant feedback, informing the student, teacher (in some cases, other interested parties) about the progress and results of the task, strengths and weaknesses, the presence of gaps in the previous material, issuing personalized recommendations for eliminating identified problems, setting and adjusting immediate educational goals and scenarios for further development.

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