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**THE SUBJECT FIELD OF DIGITAL PEDAGOGY: DISCUSSIONS  
AND PROBLEMS**

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**Abstract**

Digital pedagogy has become not only an academic discipline but is also taking shape as a scientific direction today. Being at the stage of formation, digital pedagogy does not yet have a clear definition of the subject field, categorical apparatus and research methodology. The lack of substantiation of the scientific status of digital pedagogy complicates compliance with the requirements for scientific research. The authors of the current article consider the main approaches to define the elements of the scientific subject of digital pedagogy and concluded that they are currently not systematized and ordered. As a result of the study it is concluded that it is possible to limit the subject field of digital pedagogy based on its structure. The main elements are proposed to consider digital education, training and upbringing as mechanisms for the formation of three subsystems of human digital culture: information, praxeological and axiological, as well as the structural elements of each of them as a type of pedagogical activity: subject, object, means, environment, conditions, goal, result. The system built from the obtained elements will make it possible to formulate scientific problems for the research which results from the interaction of digital pedagogy and its components with each other and with the other branches of scientific knowledge, spheres of public life and social subjects.

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*Keywords:* Digital education, digital learning, digital pedagogy, subject field of digital pedagogy



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## 1. Introduction

Today digital pedagogy is becoming an integral part of the pedagogical sciences. This is dictated by the fact that the advanced countries of the world are moving to the format of the digital economy (Lizunkov et al., 2021; Mau, 2020).

The digital economy as a social phenomenon requires a digital transition in all spheres of public life: pedagogical, medical, managerial, scientific, etcetera. The pedagogical sphere plays a vital role in the training of personnel for all areas of professional activity. That is why special requirements are imposed on the quality of functioning and the level of development of digital pedagogy (Peshkova & Samarina, 2018; Slepikova & Aksenov, 2021).

With a large number of scientific studies on the problems of digital pedagogy, its status as a scientific direction has not been fully determined. This is due, first of all, to the fact that the subject of this pedagogical branch remains unclear, its boundaries are not defined. In addition, the categorical apparatus of digital pedagogy, which sets the subject field of the scientific direction and its methodology, also needs scientific reflection. Digital pedagogy must make the final transition from a state of metaphoricity to a rigorous scientific description, because in a digital society, it becomes one of the main mechanisms of socialization of the individual.

## 2. Problem Statement

When studying the main approaches to the definition of the subject of digital pedagogy, an important problem was identified, the results of the solution of which most often determine its boundaries and content. It consists in the fact that when the category of "digital pedagogy" was introduced into the scientific circulation, the concepts that make up its categorical apparatus today turned out to be poorly developed. We are talking about such categories as "distance education", "distance learning", "e-learning", "virtual education", etcetera. The fact is that, without having found their own stable interpretation, they found themselves in the foundations of a new scientific direction. One can see, in many scientific works, the use of these terms as synonyms or metaphors (Egorov et al., 2021; Voronova et al., 2021).

Indeed, the information culture, developing at a fairly rapid pace, has formed a certain scientific potential, which uses the methodology of scientific knowledge, which is different from traditional science. Categories such as virtual reality, information reality are complemented by new concepts - digital culture, digital education, etcetera. But they are very often used as metaphors, duplicating previously existing terms (Gryaznova, Lanskaya et al., 2020; Gryaznova, Treushnikov et al., 2020).

Nevertheless, the definition of the subject of digital pedagogy requires a more thorough delineation of meanings in terms used within its framework. So, for example, in one of the works the following definition of digital pedagogy is given: By digital pedagogy, we propose to understand the branch of pedagogy that reveals the essence, patterns of digital education, the role of "digitalized" educational processes in personality development, develops practical ways and ways to increase their effectiveness (Ilaltdinova et al., 2019).

In this definition, only digital education is included in pedagogy, while the other two most important components - digital learning and digital education - are taken out of brackets or understood as components of education.

Today there are more and more works devoted to the study of individual elements of the subject field of digital pedagogy. Most often, these are components such as a digital educational environment, digital educational space, digital technologies, politics in digital learning, digital ethics, etcetera. (Bertram, 2020; Burr et al., 2019; Dennis, 2021; Lindberg, 2020; Pachero et al., 2020). Of particular interest among researchers is the study of such a component of digital pedagogy as a result (Chernyshov, 2021; Nazarov et al., 2021). Digital didactics is also the most frequently studied issue in scientific articles (Barakhsanova & Danilova, 2018; Muller-Brauers et al., 2020; Tatarinov & Orlova, 2020).

These approaches make it difficult to determine the boundaries of the subject field of digital pedagogy, because imply an unlimited variety of options and the understanding of digital pedagogy is only the process of using distance forms of education.

### **3. Research Questions**

The main research questions are the existing approaches to defining the subject field of digital pedagogy and the results of their application. The article also discusses the problems in defining the main categories and concepts of digital pedagogy. The authors propose a variant of defining the boundaries of the subject field of digital pedagogy.

### **4. Purpose of the Study**

The purpose of the article is to study controversial issues in determining the subject field of digital pedagogy in the framework of scientific and pedagogical research and develop a variant of its limitation.

### **5. Research Methods**

At the first stage of the study, the method of analytical literature review was used, which made it possible to identify controversial points in the issue of determining the subject field of digital pedagogy. At the second stage of the study, approaches to the classification of scientific knowledge and the activity approach (Kasavin, 2018; Stolyarova, 2018) were used, which made it possible to determine the boundaries of the subject field of digital pedagogy as a modern scientific direction.

### **6. Findings**

The subject field of the scientific direction should be limited and not be an endless and chaotic enumeration of problems. In addition, it is closely interconnected with such criteria of scientific knowledge as the presence of its own methodology, categorical apparatus, laws and regularities, access to practice. These requirements are formulated in the methodology of scientific knowledge and philosophy of science and are generally accepted in the scientific community. They apply to any scientific direction or research. Digital pedagogy as a new branch of scientific knowledge is no exception.

To determine the boundaries of the subject field of digital pedagogy, let us turn to the structure of the pedagogical process. The activity approach allows us to present pedagogical activity as a triunity of three main elements - education, training and upbringing. Pedagogy as a science includes these three components. The transition to digital format does not exclude these components from pedagogical practice, but only changes their form, specificity, principles and laws of existence and functioning. Digital education does not cease to be a process, the main task of which is the formation of a knowledge system, i.e. information subsystem of human culture. Its structure retains the same components as in traditional education, i.e. subject, object, means, environment, conditions, goal, result. It is another matter that these components themselves acquire a digital format, i.e. are information on a certain type of media. Even a subject in digital education gets the opportunity to be represented by his avatar, i.e. acquires an additional carrier of the subject's image. The point is that in the information space we are not dealing with real people, but with the performers of their roles - quasi-subjects. The real person is changing dramatically under the influence of new social relations in a digital society. So, for example, in one of the works, the authors give the following characteristic to a person of the information age:

*... the dominance of the value of intangible incentives, the desire for innovative solutions, continuous professional development, enrichment of knowledge, teamwork, the ability to cooperate and share information, ease of contact with digital technologies, the ability to maximize the use of their capabilities in work, assessment of the creative factor as the most important resource of human activity, readiness for remote employment, finding one's place in the system of global goods (ecology of the planet, preservation of natural wealth, socio-economic equality, fundamental science, planetary security etc.). (Shcherbakova et al., p. 202)*

A similar situation occurs with the object of educational activity, i.e. information that the subject must master and turn into knowledge. It is now presented in digital form and requires additional skills from subjects to find and master it.

Means as a tool of activity in digital education, which are digital information technologies, are the basis of all its changes. Both the purpose and the result of digital education are changing. It is the forms of interaction between the subjects of education that are becoming different. The bulk of scientific research on the problems of digital pedagogy is devoted to these issues.

Digitalization is a higher technical level of informatization. Its complexity and, at the same time, perspectiveness lies in the fact that it leads humanity to a fundamentally new paradigm of social relations, activity and communication. In the digital pedagogical process, a new style of pedagogical interaction is being formed, new requirements for the subjects of this interaction. If we talk about digital education and training, then there have also been significant changes. First of all, defining learning as a process of acquiring skills of activity and thinking, and upbringing as mastering the system of cultural values, it can be stated that in these cases, too, changes concern the quality of each structural element. Acquiring a digital format and new forms of relations, these processes themselves are changing qualitatively.

Scientists and educators write about fundamental changes in distance learning quite often, as we talked about above. Education as the basis of human praxeological culture becomes more efficient and technological. At the same time, the style of pedagogical interaction is changing, first of all. The role and

status of teachers and students as subjects of relations in the digital environment is changing. As for education as the basis of a person's axiological culture, the use of information technologies and the transition to a distance format accelerate the process of forming a system of values, but at the same time this system itself is being transformed. It becomes fragmented, weakly reflecting belonging to a particular people, country, ethnic group, etcetera.

There is much less publications about digital education than about education and training. It is rarely considered as an independent element of the pedagogical process. As Golovanova (2019) states: "Exaggerating the status of the digital component of education, raising it to the rank of a system-forming component leads to the fact that teaching digital technologies, the formation of programming skills, communications in the online environment, etcetera, are displacing such a defining component as upbringing from the educational process" (p. 20). While agreeing with the author on this issue, we believe that this is not entirely correct, since the pedagogical process cannot be represented outside the unity of education, training and upbringing. Even teaching a person the most elementary operations requires not only the formation of skills, but also knowledge, as well as an understanding of why this should be learned. I know, I can and I want - this is the unity of three types of activity, reflecting the level of human development and its willingness to be a person, which is the final result of socialization.

So, you can limit the subject of digital pedagogy to its structural elements: education, training, upbringing. Further, the restriction should be supplemented with the components of each of them: subject, object, means, conditions, goal, result. All other possible elements will be derivatives. This limitation does not reduce the subject field of digital pedagogy but turns it into a system. Here it is possible to single out as research problems not only the elements themselves, but also the connections between them. For example, the most urgent problem of digital pedagogy is the patterns and specifics of interaction between the subjects of the digital pedagogical process. Or the influence of digital technologies on the formation of the subject's value system, on the transformation of the educational process, etcetera. Since digital education, training and upbringing form three main subsystems of digital culture (informational, praxeological and axiological), the questions and problems associated with these elements will be in the subject field of digital pedagogy. They, in turn, determine the relationship of digital pedagogy with all spheres of public life, types of social subjects and social institutions.

Thus, as a subject of digital pedagogy, one can define the essence, patterns, forms of being and phenomena of the digital pedagogical process.

## **7. Conclusion**

The conducted research has shown that the subject field of digital pedagogy as a scientific direction remains undefined today. The main problems that are considered in scientific works are the problems of digital competence of participants in the educational process, the effectiveness of the results of distance education, the negative consequences of the use of distance technologies in education.

The circle of problems of digital pedagogy is much wider. As a scientific direction, it should cover the study of the laws of the entire digital pedagogical process, represented by digital education, training and upbringing and responsible for the formation of the digital culture of a modern person as a set of three subsystems: information, praxeological and axiological.

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