

Pedagogical Problems of E-education

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ABSTRACT

The article deals with various approaches to Informatization of education as one of the most important processes of Informatization of society. The purpose of the research was to analyze and generalize various psychological and pedagogical researches, scientific and pedagogical literature, and own experience of pedagogical activity in identifying pedagogical problems that arise in the process of e-education – one of the areas of Informatization of education. The identified problems of e-education are grouped according to two characteristics: the first group of problems in e-education is related to the organization of the educational process and its results, the second group is related to the psycho-emotional sphere, the preservation of students' health and ensuring their comprehensive harmonious development in e-education. These pedagogical problems can be used in determining the directions of scientific researches to determine the patterns, methods, tools and technologies for organizing educational activities of students in the conditions of widespread use of modern information technologies in the educational process.

Keywords: *Informatization, Problems, E-education.*

1. INTRODUCTION

One of the global trends of modern world development is the Informatization of society, in which a significant role is assigned to the Informatization of education. Informatization of education is considered by many researchers from different points of view. According to D.E. Prokudin, this is a purposeful activity for the development and implementation of information technologies in the educational process [1, p.2]. According to Z.M. Albekov, this is a specially organized socio-economic, scientific and technical process of creating conditions for meeting the information needs of students [2, p.6-8]. Informatization of education is considered as a socio-pedagogical transformation associated with the saturation of the educational system with information products and pedagogical technologies based on them by A. Bates, A. Sangrà [3, p.25].

We agree with Z.M. Albekova that one of the directions of informatization of education is e-education – a system of training using information technologies [4, p.6-8]. As world practice shows, when developing and evaluating information educational resources, special attention is paid to their ergonomic characteristics. According to L. Harasim and M.V. Khlopotov, the

familiar term "user-friendly interface" is increasingly being replaced by the term "user suitability", defined as "the degree to which a product can be used by certain users in a certain context to achieve certain goals with proper efficiency, productivity and satisfaction" [5, p.22, 6, p.195].

2. THE RESULTS OF THE STUDY

E-education, as a global large-scale social process aimed at intensifying, improving the efficiency and quality of the educational process, along with well-known positive aspects, has a number of problems of pedagogical, psychological and ergonomic nature.

Our analysis of various psychological and pedagogical researches, scientific and pedagogical literature, analysis and generalization of our own experience in teaching allowed us to identify a number of pedagogical problems of e-education related to the system "teacher-student-educational material". We will not rank them according to the degree of complexity and significance, but only select some groups.

The first group of problems in e-education is related to the organization of the educational process and its results (figure 1). This group includes the problem of implementing to a greater extent only the reproductive

method of training. Another problem in this group is the student's superficial understanding of the training material. Next, we refer to the impossibility of a full, deep awareness of the interdisciplinary nature of the studied disciplines and their continuity. The next problem, in our opinion, is excessive individualization. According to E.N. Gladysheva, the problem is also a certain depersonalization of the educational process in the conditions of e-education [7, pp.100-101]. In addition, there are also limited forms of training, forms of organization of training. According to S.I. Sakovich and Ya.V. Pavlova, another important problem is the decrease in socialization of students in the learning process, associated with a decrease in personal contacts [8, pp.2-3]. This group is closed by the problem of complete death of previously formed and unused skills (for example, computing) due to their implementation in the functionality of information technologies. All this can lead to a decrease in the student's intellectual abilities.

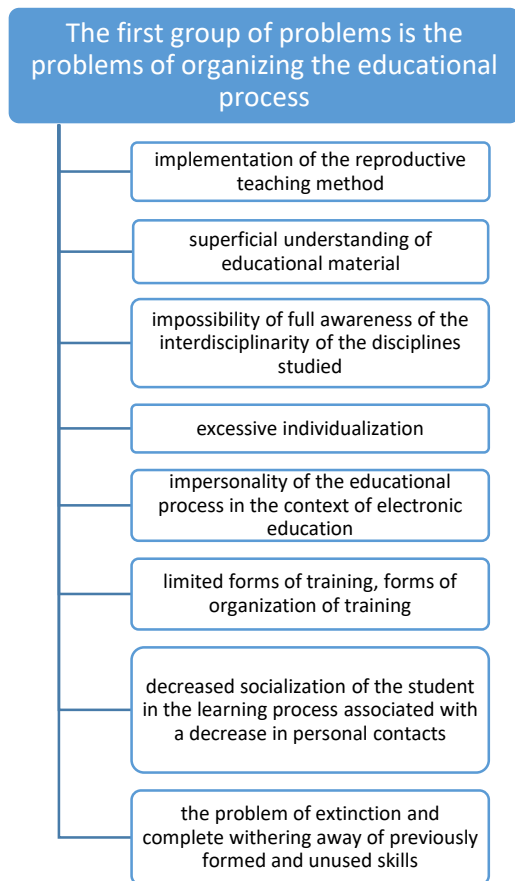


Figure 1 The first group of problems.

The second group of problems (figure 2) is related to the psychoemotional sphere. According to S.G. Grigoriev, V.V. Grinshkun, and I.V. Mukhametzyanov, a serious problem is created by the lack of consistency and integrity in the sustainable provision of health savings for students [9, p.286, 10, pp.239-240]. Another problem, according to I. Robert, is the lack of methods

and tools for taking into account individual characteristics and various types of organization of nervous activity, thinking, patterns and recovery time of intellectual and emotional performance [11, p.25]. The next problem in this group is ergonomic. An important problem is a certain degree of discrimination of students. And another problem of this group is information stress.

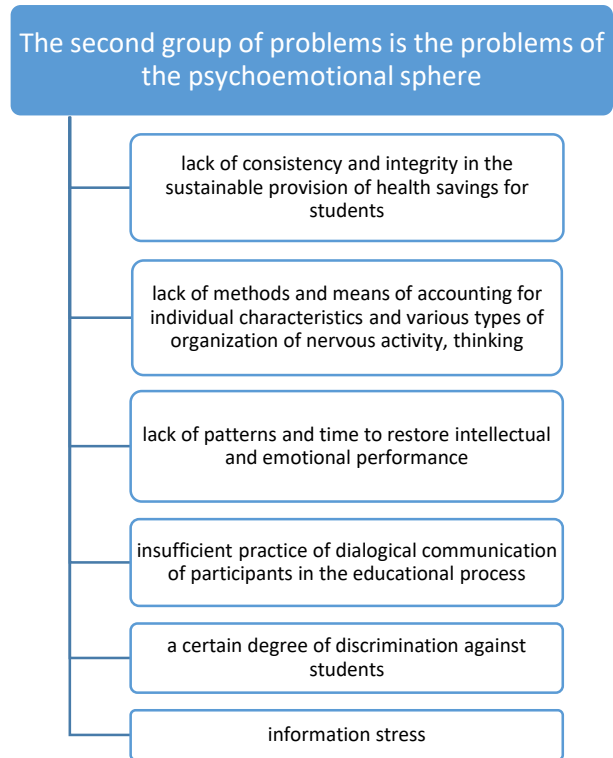


Figure 2 The second group of problems.

3. RESULTS DISCUSSION

Let's look at the problems of each group in more detail. The first group of problems in e-education, as noted above, is related to the organization of the educational process and its results. To this group, we refer the implementation to a greater extent only of the reproductive method of training. This approach leads to the assimilation of the presented standards, reproduction according to the sample, obtaining a predetermined result, which weakens the ability to think creatively.

Another problem in this group is a superficial, partial understanding of the training material. Since there is no direct contact with the teacher, the student cannot ask directly a question and immediately receive an exhaustive answer, and the teacher has no possibility to explain the studied topic, to predict the degree of difficulty of its study, to focus on the most difficult elements of the training.

Further, this group includes the impossibility of a deep awareness of the interdisciplinary nature of the

studied disciplines and their continuity. Students are not always fully aware of the interdisciplinary nature of the studied educational materials, their continuity, when the assimilation of one educational material is based on the knowledge and skills acquired during the study of previous educational materials in other disciplines. This results in "offset vision", where details are visible but the whole is not visible.

Non-linear representation of educational material in educational resources also creates problems of an ergonomic nature, according to E.N. Gladysheva. Multimedia training materials are often presented as a non-linear structure based on hypertext, and this leads to the fact that navigation through the text is not fully understood, and following the links may distract the student from the main line of presentation of the training material and lead to the loss of its logical chain. In addition, since a person's short-term memory is limited in capabilities, and, as various psychological studies show, the optimal number of objects perceived by a person is seven objects, the simultaneous use of several types of information (text, video, animation, sound behind the scenes, etc.), distraction from one type to another, and the student's attempt to keep track of everything, can lead to the fact that more important educational materials will remain undeveloped [7, pp.101-102].

In the context of e-education, it is difficult to determine the amount of labor intensity of educational material. This is due to the fact that its assessment requires setting the amount of virtual learning activities performed to assimilate educational material at a certain level.

The next problem in this group, in our opinion, is excessive individualization. It is considered as a process of creating a student's own experience, where he/she is a self-regulating subject of his/her own activities, exclusively independently organizing virtual learning activities and responsible for its results.

The problem is also a certain depersonalization of the educational process in e-education. It manifests itself in the fact that the individual characteristics of the student do not affect the results of training. In addition, there are also limited forms of training, forms of organization of training. This ultimately leads to the impoverishment of the educational process.

The problem, according to S.I. Sakovich and Ya.V. Pavlova, is also a decrease in the socialization of students in the learning process, associated with a decrease in personal contacts [8, p.5].

And this group is closed by the problem of extinction, and sometimes complete death, of previously formed and now infrequently used, and sometimes completely unused, skills (for example, computing) due to their implementation in the functionality of

information technologies. All this can lead to a decrease in the student's intellectual abilities.

The second group of problems is related to the psychoemotional sphere, with the preservation of students' health and ensuring its comprehensive harmonious development in e-education.

Thus, as a result of incomplete compliance of some electronic educational publications and resources with the unified requirements of national standards in the field of information and communication technologies, information exchange and ergonomics, students often need increased concentration of attention, excessive intensification of mental activity in conditions of static work with a significant visual load.

According to S.G. Grigoriev and V.V. Grinshkun, a serious problem is created by the lack of consistency and integrity in the sustainable provision of health savings for students [9, p. 5]. Outside of an educational institution, it is impossible to control the educational, visual, and intellectual loads of a student, which can lead to mental and physical overload, chronic stress, and, as a result, to the development of the most common diseases (disorders of the musculoskeletal system, vegetative-vascular dystonia, visual disorders, etc.).

Another problem, mentioned by I. Robert, is the lack of methods and tools for taking into account individual characteristics and various types of organization of nervous activity, thinking, patterns and recovery time of intellectual and emotional performance [11, p.35].

Slowing down the development of the emotional sphere, independent thinking due to insufficient practice of dialogical communication of participants in the educational process is the next ergonomic problem of this group, raised by various researchers, in particular F. L. Greenagel [12, p.3-4]. Insufficient practice of dialogical communication of participants in the educational process, substitution of interpersonal contact, live communication of a student with other students and intellectual communication of a student with a teacher by another form of communication – "student-computer" [13, p.2] can lead to the fact that silent consumption of information in the absence of dialogue significantly slows down the development of the emotional sphere, independent thinking of the student, leads to his/her isolation.

An important problem, according to V.D. Shadrikov and I.S. Shemet, is a certain degree of discrimination of students [14, p.62]. The process of study of educational material using a computer, according to A. Miller, J. Anderson, J.L. Boyles, and L. Rainie is usually associated with visual perception, while auditory and kinesthetic perception remains unused [15,16, p.2]. And since all people have different sensory channels, and the preference in this case is undoubtedly given to visuals, we can say that there is a certain discrimination.

The next problem is information stress, which, according to A.A. Ilidzhev, is caused by several factors: a large amount of available or found information, the inability to independently select reliable, high-quality information, and distinguish useful information from "information garbage" [17, p.24].

4. CONCLUSIONS

Thus, without claiming to be all embracing range, the pedagogical issues of e-learning are outlined in this article, we can assume that they can determine the direction of scientific researches related to the identification of patterns of organization of educational activity of a student in conditions of wide use in educational process modern information technologies, ergonomic requirements for educational environment and learning tools, in particular, with the development of ergonomic technology training, the diagnostic efficiency of the tools, techniques and technology with ergonomics.

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