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READINESS OF RUSSIAN TEACHERS TO BLENDED LEARNING

Olga Dautova (a), Elena Ignateva (b)*, Olga Shilova (c)
*Corresponding author

(a) St-Petersburg Academy of In-Service Pedagogical Education, Sankt-Petersburg, Russia, anninskaja@mail.ru
(b) Yaroslav-the-Wise Novgorod State University, Veliky Novgorod, St-Petersburg Academy of In-Service
Pedagogical Education, Sankt-Petersburg, Russia, iey1@yandex.ru
(c) St-Petersburg Academy of In-Service Pedagogical Education, Sankt-Petersburg, Russia, olganshilova@gmail.com

Abstract

The article examines the problem of the readiness of Russian teachers for blended learning that adequately meets the modern socio-cultural context. The research methods were the analysis of information sources based on the methodology of conceptual synthesis; google questionnaire. The pedagogical understanding of the digital educational environment as a complex of relations in educational activities mediated by the use of digital technologies and resources is proposed. The rationale was the finding that the relationship between teaching and learning has changed due to the use of digital tools for pedagogical purposes. The article presents the results of reflection on the experience of the massive use of digital technologies in school education: the most used digital services and resources are identified, the positive aspects of their use in the preparation and conduct of lessons, in the organization of educational and cognitive activities of students, the impact on educational results are defined. The problem of misunderstanding of the pedagogical possibilities and risks of digital services and resources for the majority of teachers is outlined. The greatest readiness for blended learning was revealed in the methodological plan with low values of the psychological, technological and didactic aspects. The conclusion is made about readiness of teachers as a critical factor in the effectiveness of mass blended learning format, capable of ensuring the preservation of pedagogical traditions and new educational results.

Keywords: Blended learning, digital educational environment, digital educational resources, education transformation, teacher readiness

1. Introduction

Digital technologies have already penetrated all spheres of society. The problem of digital transformation of education is the subject of discussion of the scientific and pedagogical community. The period of the pandemic has become a sudden pedagogical experiment that highlighted the possibilities and difficulties of this process. The model of traditional teaching assumes an educational environment based on book culture, direct communication between teacher and student, the principles and laws of classical didactics. The digital learning environment (DLE) offers a completely different learning format (screen culture, variety of resources and services, etc.) and new opportunities. At the same time, it is required to abandon the usual things (orientation on knowledge results, the role of the teacher as a carrier of information, and the student as its receiver, etc.).

Today, there is a competition between two teaching models, two educational environments for the right to be leading in modern education. A complete return to traditional education means, in fact, the degradation of the educational system, the loss of connection with the reality of the sociocultural situation. The complete transition to learning in a digital educational environment is still daunting. For many years, the informatization and digitalization of education have been associated primarily with the introduction of technical means and technologies. The pedagogical aspect was often not considered; it was expected that technology would automatically bring new pedagogical innovations. The situation of transition to distance learning showed that it is precisely pedagogical comprehension and adaptation of technologies to pedagogical meanings that are lacking.

In pedagogical practice, there is a variant of the organization of the learning process, which combines both learning models - blended learning. Associated with the transition to blended learning are issues such as teaching in a flexible, flipped classroom (Bergmann & Sams, 2015; Inoue-Smith, 2018; Lavi, 2018; Staker & Horn, 2012), personalization of training (Bingham, 2017; Uvarov & Frumin, 2019), strengthening the role of independent work (Yefremtseva et al., 2019), changing the teacher's role (Gorycheva et al., 2019), DLE specifics (Suhonen, 2005). An urgent need for a pedagogical understanding of the specifics of DLE and the readiness of teachers to work in it has been revealed.

2. Problem Statement

Blended learning is a modern educational phenomenon of the late 1990s and is actively developing (Andreeva, 2018; Margolis, 2018). Its essence lies in the transfer of part of the learning process into a digital format. Traditional (face-to-face) and digital, based on the use of digital services and resources, learning formats coexist and interact with each other. Each of them is intended for implementation in a specific educational environment and therefore has its own specifics, advantages and disadvantages. Therefore, at the present moment in the development of human civilization, blended learning seems to be the most adequate.

As a result of the genesis of technical systems, the human environment has changed. A similar analogy is observed with regard to the means used in education. DLE is distinguished by other

functionality based on its other capabilities and the behavior of subjects in it. In DLE, the main function of the teacher becomes the management of the educational activities of students.

With the significance of technological innovations in the transformation of education, the teacher is the most important factor on which the learning outcomes of students depend (Hattie, 2009; Riihelainen, 2019). The success of the transition to blended learning depends on the readiness of mass schoolteachers for the digital transformation of education (Medvedeva, 2015).

3. Research Questions

- What is the pedagogical understanding of the digital learning environment?

- What are the results of the analysis of the experience of mass use of digital technologies in school education? How do educators assess their readiness to work in blended learning format?

4. Purpose of the Study

The purpose of this article is to present the results of a theoretical and experimental study of the features of DLE and the readiness of schooleachers for blended learning.

5. Research Methods

The study of the pedagogical features and capabilities of DLE required the analysis of information sources using the conceptual synthesis methodology. This methodology is distinguished by the desire to integrate and interpret the concepts of various scientific disciplines or substantiated positions of various scientific schools, authors with the aim of the most complete and comprehensive study of pedagogical phenomena and processes in an increasingly complex reality. Important for conceptual synthesis is the presence of the researcher's own concept, based on which he establishes the sides of the content that are essential for a specific purpose (Shilova, 2019).

The pedagogical view of DLE prompts us to look at it from the standpoint of achieving new educational result. The effectiveness and validity of the application of the methodology of conceptual synthesis to solving complex pedagogical problems has been confirmed by a number of scientific works of recent years in the field of pedagogical design of joint network activity of educational subjects; designing the conceptual content of integrative courses; pedagogical terminology of the modern education paradigm (Aleksashina & Sherstobitova, 2016; Patarakin, 2015).

The study of teachers' readiness for blended learning is based on reflection on the experience of using various services and resources during the pandemic. The experimental study was carried out using the questionnaire method (questionnaire in GOOGLE-form) on the basis of two information and methodological centers in different districts of St. Petersburg. 520 respondents took part anonymously. 80% were teachers, 20% - other categories of employees of educational organizations. 87% of participants have higher pedagogical education; more than 90% of respondents are women. The age

distribution is close to normal and, in general, reflects the structure of the teaching staff in St. Petersburg. More than 40% of participants work in general secondary schools, about 40% in gymnasiums and educational institutions with in-depth study of subjects.

6. Findings

The DLE concept is actively used in the field of education all over the world. At the end of July 2020, the Google search engine issues 1 billion 420 million for the query "digital learning environment". Foreign and domestic authors generally understand DLE as technical solutions to support educational activities (Suhonen, 2005). Such an understanding does not allow reaching an understanding of new educational results, the appearance of which is stimulated by activity in the environment itself. In pedagogy, the "technocratic" concept of DLE acquires the properties of a concept. Depending on the angle of view of the researcher, it is colored by different associations, reflects the experience of a person. The admissibility of reflecting modern pedagogical meanings in the concept of "DLE" is based on an attempt to realize that new educational result, which is impossible to obtain in a classical environment. This result and core of understanding can be a change in human behavior. Vygotsky (1982) noted the role of tools in changing human behavior, his mental processes, as the role of tools in changing the nature of labor. A child who grows up in a digital environment from childhood becomes "different" (Feldshtejn, 2011). The use of digital tools in the learning process affects students' perception of the world around them, their imagination, memory, thinking, speech. As a result, human behavior changes, i.e. his interaction with the environment, manifested in activities (actions, deeds, habits). Changing student behavior in DLE is a powerful factor in changing learning activities.

The main relationship in educational activity is the relationship between teaching and learning. This relationship also organizes the entire system of didactic relationships, their concrete manifestation in the learning process. Teacher and student become diversified, play different roles. In understanding didactic relations, the focus is shifted from the classical to the interaction of subjects acting in different roles.

The modern pedagogical view of DLE encourages understanding it as a complex of relations in educational activities mediated by the use of digital technologies and resources, contributing to the realization by the subjects of the educational process of opportunities for mastering culture, self-realization, building social relations and aimed at shaping responsible digital behavior of a citizen of modern society.

Reflection of the experience of mass use of digital technologies in the process of school education showed that among digital services and resources, e-mail took the leading position. The second place is occupied by ZOOM, which allows interaction in DLE. Platforms with a ready-made educational context (RESH, RESHU EGE, INFOUROK, etc.) were used by about 30% of teachers. Half of them revised a lot due to imperfection of the educational content (superficial or difficult presentation, inconsistency of the content with those curricula or textbooks).

Teachers highlighted the positive aspects of DLE in preparation for the lesson: the ability to simulate a lesson from digital objects (35%); compliance of the content with the textbook (35%); the

possibility of individualization of training (35%) and in-depth study of the subject (24.3%); reliability of materials (18.5%); the ability to exchange materials with colleagues (25%).

During the lesson, teachers identified the possibility of computer testing (64.5%), material visualization (41%). Only 17% of teachers used DLE for research, creative work, 7% - virtual laboratories and interactive models. DLE contributed to the organization of educational and cognitive activities of schoolchildren (62.7%), the formation of ICT competence (48%), increased interest in learning (37%).

It was revealed: development of skills of self-organization of schoolchildren (71%) or their deterioration (27.6%); development of skills to work with information (53%) and communication competence (39%); decrease in subject results (34%) or their increase (12%); difficulty in achieving metasubject educational results (27.5%).

53.4% of teachers are concerned about the lack of pedagogical support for the use of digital services and resources in the learning process. This means that educators do not always understand the pedagogical possibilities and limitations of DLE.

The feasibility of mass mixed education was assessed negatively by 39% of teachers, 30% positively, and 25% had not yet decided on their position.

The teachers assessed the psychological, technological, didactic and methodological aspects of readiness to work in a blended learning format.

Psychological readiness for blended learning is understood as an internal desire to achieve success in solving non-standard problems in a specific situation of using distance learning tools. According to a subjective assessment, only about 35% of teachers are psychologically ready for blended learning. 33% of teachers believe that their readiness is unsatisfactory (of whom 13.5% are not ready at all). During interviews with teachers, the high importance of the following judgments is recorded: "It would be nice to return to traditional education", "I liked working more in the old way".

Technological readiness includes proficiency in digital technology and the ability to work on different learning platforms. About 16% of teachers consider themselves technologically ready to varying degrees. 74% of teachers are not ready or poorly prepared.

The didactic readiness of teachers presupposes their mastery of the methodological and normative content of the methods of pedagogical activity in the field of learning in the context of DLE. 38% of teachers noted didactic readiness at excellent (8%) and good levels (30%), 62% of teachers (of which 31% were unsatisfactory, 10% at zero) - at a low level.

The methodological readiness of teachers for blended learning presupposes an understanding of the specifics of the use of digital teaching aids and technologies within their subject. Knowledge of their subject is a lifeline for educators in the DLE setting, so they value this aspect of readiness more highly. 40% of teachers noted the general methodological readiness for blended learning, 60% - its low level (15% of them are not ready at all).

7. Conclusion

According to foreign and Russian scientists, a real step in the digital transformation of education can be the transition to a mass format of blended learning.

The article substantiates that the pedagogical specificity of DLE is due to a change in the relationship between teaching and learning, an expansion of the range of roles of the main subjects of learning and is manifested in a change in its functionality. The use of blended learning changes the format of the teacher's work and requires from him fundamentally different attitudes.

Experimental research has shown that teachers experience the greatest difficulties with pedagogical support of digital services and resources. Meanwhile, positive effects in the DLE were revealed in the preparation and conduct of lessons at school, the organization of educational and cognitive activities of students, and the achievement of new educational results.

However, in general, the readiness of teachers to work in a blended learning environment is low. The lowest were the technological, then the didactic and psychological components of readiness to work in the DLE. The teachers are most ready only in the methodological aspect, connected with the knowledge of their subject. According to the survey, only a third of teachers have a positive attitude towards blended learning. Ultimately, the overall psychological background and the effectiveness of the digital transformation of education will depend on a group of hesitant teachers.

The results obtained characterize with a fairly high probability the readiness of the teaching staff of a large city for blended learning. We believe that in those areas where there are precedents of blended learning, the results may be higher (in 2012-2013, an experiment on blended learning was carried out in ten regions of Russia, since 2014 in some Moscow schools). However, we believe, based on the results of the analysis of teacher forums, individual conversations with teachers from different cities, that on average the results reflect the real situation.

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