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Digital Transformation of Education: Comparative Analysis of Students and Their Parents' Survey Results

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ABSTRACT
The article presents the study results to identify problems arising in parental support of children's educational activities in the context of digital transformation of education, attended by 7336 students of urban educational organisations and 7626 parents from 7 regions of the Russian Federation. The data obtained highlight issues related to the attitude of schoolchildren and parents to various types of education, to the impact of digital technologies on the quality of education, assessment of the ability of parents, if necessary, to assist children in completing school assignments related to the use of digital technologies, self-assessment by survey participants of the level of digital technology proficiency, identified by survey participants of the positive and negative aspects of the use of digital technologies in the education of schoolchildren. Their comparison with the research results of domestic and foreign scientists was carried out. Recommendations for solving the identified problems are given.

Keywords: *Digital transformation of education, Secondary general education, Parents, students, Traditional education, Distance education, Digital technologies.*

1. INTRODUCTION

The events of 2020-2021 entailed significant changes in the education system, making digital technologies and their impact on the education, upbringing and development of schoolchildren the focus of attention of all subjects of the educational process. Digital transformation initiated the emergence of a mixed educational model, in which, along with face-to-face training, various computer equipment, mobile devices, as well as network resources and virtual environment tools are used. Traditional full-time education is being transformed into digital education using distance learning technologies [1].

The education system cannot remain the same because it faces completely new challenges and tasks. It is no coincidence that one of the directions of modernisation of the education system within the framework of the national project "Education" is the development of the digital educational environment [2]. According to the Federal Law "On Education in the Russian Federation", parents have the right to actively participate in educational organisations' activities, and their opinion must necessarily be taken into account by employees of these organisations [3]. Therefore, it is necessary to study parents' ideas about the quality of education received by their children.

The problem of digital transformation of education and its perception by various subjects of the educational process (teachers, students and their parents) is the object of research by many Russian and foreign scientists.

Analysis of publications published in European scientific journals suggests that foreign colleagues are interested in: the essence of the concept of "digitalisation", the process of integrating digital technologies into schools and hybrid (or mixed) learning environments, current and future educational needs generated by digitalisation itself [4]; self-efficacy of teachers when using information and communication technologies, analysis of the relationship between the professional effectiveness of teachers in the digital world, their age, gender, the presence of collegial cooperation between teachers and the knowledge necessary for teaching using digital technologies [5, 6].

At the same time, the main problem is the lack of comprehensive research in modern science that allows us to see the picture of the digital transformation of education in its entirety with the inclusion of knowledge on the studied issues obtained in psychological, pedagogical, social, economic, regulatory, health-saving and other spheres.

Thus, Dukhanina L.N. and Maksimenko A.A. note that "the question of the conditions for the productive use of digital technologies in the educational process ... requires research, followed by the study of parental perceptions and expert opinions on the digitalisation of school education, ... taking into account parents' perception of the digitalisation of the school environment" [7]. Vachkov I.V. and authors emphasise that so far, such studies have not become systematic and have not turned into a tool for studying parents' opinions, which could serve to improve the quality of education [8].

The above has determined the purpose of our study - to identify problems that arise in parental support of children's educational activities in the context of digital transformation of education.

2. RESEARCH METHODOLOGY

The study, conducted in April – October 2021, involved 7336 students of urban educational organisations and 7626 parents from 7 regions of the Russian Federation: Belgorod Region, Volgograd Region, Krasnodar Territory, Lipetsk Region, Rostov Region, Stavropol Territory, Chechen Republic. Of these, 93% of the surveyed schoolchildren and 55% of parents are urban residents. The survey of parents and schoolchildren was conducted online.

In the study, the authors applied theoretical, practical and mathematical methods of scientific cognition, such as a survey using semi-closed and closed questions, registration, rating evaluation, data generalisation, statistical data processing, mathematical data processing.

3. RESEARCH RESULTS

3.1. The type of training that survey participants consider more effective

Clarifying the attitude of survey participants to various types of training is one of the significant components of our research. We found that the majority of parents (82%) choose traditional education. In comparison, students demonstrate approximately equal preferences (45.7% and 41.4%), dividing their votes between traditional and mixed learning (teacher-assisted and online learning).

3.2. The attitude of the survey participants to the statement "The use of digital technologies in the educational process contributes to improving the quality of education."

In the context of the study, it is essential to determine the attitude of the survey participants to the statement "The use of digital technologies in the educational process contributes to improving the quality of education." 76% of parents and 79.6% of students surveyed agree with this statement to a greater or lesser extent, 18% of parents and 12.6% of schoolchildren disagree with it or disagree entirely, and 6% of parents and 7.7% of students surveyed found it difficult to answer.

3.3. The ability of parents, if necessary, to assist survey participants in completing tasks related to the use of digital technologies

Modern parents, as a rule, take a fairly active part in the school life of children. It is to them, first of all, that schoolchildren turn in case of difficulties in completing tasks related to the use of digital technologies, so we suggested that the survey participants evaluate the ability of parents, if necessary, to help children in completing tasks related to the use of digital technologies. The data obtained show that the parents surveyed perceive themselves quite self-critically. 31% of parents answered this question in the affirmative, 26% chose the option "sometimes". Students rate their help 24.2% higher than the parental self-assessment reflects.

3.4. The survey participants' assessment of their level of digital technology proficiency

Considering the above, we suggested that the survey participants conduct a self-assessment, indicating their level of digital technology proficiency. Analysis of the data obtained indicates that the number of schoolchildren who assess their level of digital technology proficiency as high or relatively high is 32.4% more than parents.

3.5. The positive aspects of the use of digital technologies, according to the survey participants

We asked the survey participants to indicate the positive aspects of using digital technologies in education (they could choose several answers). The data ranking showed that parents and students have the same idea of the importance of the positive aspects of using digital technologies. Still, there is a numerical difference that allows us to talk about the survey participants' preferences. So the answer "give the opportunity to independently study what is interesting", which is in the first place, was chosen by 1.9% more schoolchildren. The

answer "develop student independence", which is in second place, was chosen by 16.1% more surveyed schoolchildren. The statement "contribute to improving the level of knowledge needed in modern life", which is in third place, was chosen by 12.3% more students than parents. The answer option "allows you to save time", which is in fourth place, was chosen by 14.1% more students, the answer "help to master learning material faster", which is in fifth place, was chosen by 21.5% more students interviewed, the answer in sixth place "increase interest in learning", was chosen by 22.7% more students interviewed. Also, the survey participants were given their answers. Among which the answer "there are no positive sides" was given by 2.2% more parents.

3.6. Negative aspects of the use of digital technologies, according to the survey participants

Along with the positive ones, we asked the survey participants to indicate the negative aspects of using digital technologies in education (in this question, you could also choose any number of answers). We re-ranked the survey results and found that parents and students, in this case, have the same idea of the significance of the negative aspects of the use of digital technologies. Still, there is also a numerical difference reflecting the views of the survey participants. The first is the answer "reduce the amount of "live" communication", 14.8% more parents chose it than children. In second place is the answer "negatively affect the health of students and teachers", it was chosen by 3.9% more parents. In the third place is the answer "they increase fatigue from studying", it was chosen by 1.8% more parents, in the fourth place - "they do not allow an adequate assessment of the student's academic performance", 10.3% more parents agree with it. On the fifth – "increase the educational load of students", it was chosen by 1.4% more parents, on the sixth - "reduce interest in learning". This answer was chosen by 3.3% more parents; on the seventh, the answer "allow you to relate to the performance of tasks formally" was indicated by 8% more parents. Also, the survey participants were given their answers, among which the answer "there are no negative sides" was given by 1.9% more students.

4. RESULTS DISCUSSION

Based on the study results, we identified several problem areas related to parental support of children's educational activities in the digital transformation of education.

A survey of students and their parents showed that distance learning is not a priority; most prefer traditional or mixed learning (teacher-assisted and online learning).

The results obtained coincide with the data of studies conducted by Slovenian scientists Levpušček M. P. and Uršič L. during the first wave of the Covid-19 pandemic. They note the following: most parents agree that distance learning gives students less knowledge but believe that online education will become important in the future [9].

The results obtained by us show that the majority of students and their parents fully or partially agree that the use of digital technologies in the educational process contributes to improving the quality of education, which coincides with the results of the survey conducted in 2021The All-Russian Center for the Study of Public Opinion [10].

Only less than a third of the parents surveyed (30%) note that they can, if necessary, provide full-fledged assistance to children in performing tasks related to the use of digital technologies. At the same time, schoolchildren evaluate parents' abilities by 10% higher, but it is evident that most students solve the emerging problem situations independently. These data are consistent with the results obtained by Lithuanian researchers L. Daniela, Z. Rubene and A. Rudolfa, who studied the views of parents on distance learning in the context of the pandemic. They concluded that children whose parents do not use digital technologies might be more at risk of falling into a risk group with significant educational gaps [11].

The self-esteem of schoolchildren and their parents in the field of digital technology proficiency is sharply different. While more than half of the surveyed students (50.4%) rate their digital technology proficiency as high or relatively high, parents admit that only about 18% of them consider their level of digitalisation to be high. The majority of parents surveyed (59%) noted that he is at an average level. The data obtained fully coincide with the results obtained by the domestic scientists. G.U. Soldatova and E.I. Rasskazova note that a higher assessment of their digital competence in children is associated with more significant user activity, the experience of independent development and independent (uncontrolled) access to the Internet and a more comprehensive range of activities there, as well as a subjective "digital gap" – a high assessment of their user skills, compared with the skills of parents [12].

Assessing the positive aspects of the use of digital technologies in education, the majority of both schoolchildren and parents consider the most significant that these technologies develop the student's independence, contribute to increasing the level of knowledge necessary in modern life and allow saving time. At the same time, students also note that digital technologies increase interest in studying.

Schoolchildren and their parents were also quite unanimous in assessing the negative aspects of using digital technologies in education. The majority of

respondents noted that these technologies reduce the amount of "live" communication, negatively affect the health of students and teachers, increase fatigue from studying. At the same time, the number of parents who noted the negative aspects of digital technologies being introduced into education exceeded the number of schoolchildren by 14%; in addition, as a significant negative factor, they indicated that digital technologies do not adequately assess the student's academic performance.

This position correlates with the research results obtained by I.V. Vachkov and authors, who believe that parents are wary of the process of digitalisation of school education, having both their learned stereotypes and phobias transmitted through parental messengers and social networks [I.V. Vachkov and authors. Op. cit.].

5. CONCLUSIONS

Based on the results of the conducted research aimed at identifying problems arising in the process of parental support of children's educational activities in the context of digital transformation of education, conclusions were drawn related to the implementation of the following recommendations:

1. During the digital transformation of education, it is necessary to consider the opinion of students and the parent community, most of whom are supporters of a mixed form of education, including both traditional and distance learning (synchronous and asynchronous).

2. It is necessary to minimise the negative impact of the digital transformation of education on students' health by actively introducing health-saving technologies into the educational process.

3. To promote the creation of parent support services in educational organisations to assist students in performing tasks related to the use of digital technologies and preserving the health of schoolchildren: "live", telephone and online counselling (individual and group), conducting masterclasses, training seminars, development of thematic Internet resources, etc.

4. Revise the content of the primary school curriculum, including the academic discipline "Digital Literacy" to form digital skills and abilities of students, as well as expand the curriculum in computer science, supplementing it with a section aimed at mastering digital tools by students.

5. To organise educational work with the parent community to form clear ideas among parents about the essence of the digital transformation of education and its directions, building realistic positive prospects for the development of secondary general education.

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