

Online Education in Russia as a Form of On-The-Spot Learning



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Abstract. A new organizational form of educational practices - online learning has been examined in the article. The positive and negative aspects of this educational practice have been determined. It has been stated that in the context of further technologicalization and digitalization, online learning can become the main form of organizing educational practices.

Key words. Educational practices, organizational forms, online learning, digitalization of learning.

In 2009, a virtual home school was founded with its Interneturok.ru website, which developed a full platform of educational content (more than 4 500 videos on all subjects of the school curriculum). According to the "Analytical Report on the State of the Education System in the Russian Federation" in the non-governmental education sector today there are: non-governmental general education organizations - 851 with the number of students - 123717. The number of students per teacher is 5.83 people [3].

I. INTRODUCTION

The 4th industrial and technological revolution revealed, as an undoubted (among other things) inconsistency of the "factory model" of educational practices with modern requirements for both education itself and its ecosystem. This inconsistency and attempts to eliminate it has led to the growth of alternative forms of organizing educational practices, an increase in the number of private schools and unschoolers - children studying overall outside the school and passing only exams. If we imagine today the elemental structure of alternative (or non-state, or informal) education, then it will look quite differentiated. The scientific pedagogical, psychological and philosophical literature analyzes "home schooling", "externship", "learning according to an individual plan", "self-education", "other schools", etc. This means that the idea of alternative education only as a "didactic" change in the nature of educational interaction, prevailing in explaining changes earlier, no longer corresponds to the volume of events occurring in educational systems. Consistently changing ecosystem of alternative education isn't even taken into account there. It is based on other principles, values, and meanings, different from traditional. The most obvious (as a consequence) is the economic gain of the state and the state education system, which today has a deficit of 7.4 million study places and far from modern infrastructure [1]. The loss is also obvious - the loss of the political image of the state as the main actor in the educational services market. Since 2008, the website "Freedom of Supporters in Education" (www.freedom.ru) has been operating, which has increased the number of supporters of alternative forms of education to two million people.

II. OBJECTIVE OF THE STUDY

analytics of the possibilities of such a new form of educational practice of alternative education as online schools.

III. METHODS AND METHODOLOGY OF THE STUDY

The structural and functional analysis of modern educational practices demonstrates a fairly wide variety of organizational forms. It is extremely difficult to choose the most effective of them, especially one corresponding to the needs, abilities, and capabilities of the child. Many parents "delegate" the solution to this issue and (automatically) the responsibility for its effective implementation to the state (state school). But many, for various reasons, who did not agree with this, preferred alternative forms of educational practice. Today, both in the USA and in Russia, many are convinced of numerous advantages of non-governmental educational associations. Since the time American teacher and education theorist John Holt came up with the term "unschooling" and founded the first magazine dedicated to this initiative, with the symbolic title Growing Without Schooling, Dorothy and Raymond Moore continued his undertakings, creating an extensive network of supporters of "unschooling", it became clear that alternative education is one of the most outstanding non-political civic initiatives, which has transformed from a purely social movement into a meaningful and promising form of education with its own specific ecology different from the state one.

IV. RESULTS AND DISCUSSION.

Today, in the Anglo-Saxon, continental, and Russian traditions, sufficient experience has already been accumulated to identify the pros and cons of alternative education. The positive sides include: freedom of the educational process as an educational activity; physical freedom during the learning process itself and outside it; emotional freedom; attention within the "one-on-one" system; close-knit,

Manuscript published on 30 September 2019

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almost family-like communications; the communization of time and activity in the "parents - children" and "tutors - students" systems; identification of the best characteristics without punishment, but with encouragement for achievements; lack of spatial restriction - schooling without walls; selective attention to personal characteristics and abilities of children; flexibility of response in specific circumstances. Annalisa Barbieri adds to this: the lack of legal obstacles (although not in all countries) from the authorities and school bodies, the weak authority of the traditional school and the network mutual support of parents [4]. A lot of disadvantages of alternative education are also highlighted. They include: non-compliance with the national (in fact general and compulsory for all according to laws on mandatory secondary education) curriculum with its compulsory accreditations and exams; inconsistency of the "parent = teacher" system to the "teacher at school" position; lack of time and poor qualifications of parents as teachers; legal uncertainty of the status of alternative educational institutions; fewer special chances due to the lack of school experience and the amount of communication; financial difficulties.

Even a brief analysis of the pros and cons of alternative education shows that:

- The main role in its organization, development, and functioning does not belong to the state, but to civil society. However, many of the civic initiatives have already achieved recognition by the state and are legitimized at least partially (such as family education) in view of the fact that they almost completely meet the signs of an established social institution [5];
- Educational practices implemented in these joint civil-state projects are characterized by conflicting characteristics and results, ambiguous meanings and values;
- It should be noted that civic initiatives in the field of alternative education have a very high (in comparison with the traditional school) speed of adaptability to fluid external environment, they take into account the needs much more quickly and adequately respond to them. Therefore, research and projective simulation of communications in the "state - civil society - educational practices" triangle is now possible only with the alternative educational practices that arise today as institutions integrated into the state system of education;
- Nevertheless, today in pedagogical, psychological and philosophical literature, only two points are implicitly defined: 1) traditional (state, formal, etc.) education (both school, pre-school and post-school) is not fully justified in the current realities ; 2) the rejection of the "industrial" system of organizing educational practices and educational space in the context of the onset of the 4th industrial revolution, specified globalization, digitalization, uncertainty, and risks, clearly requires different meanings and guidelines in the development of human capital. In terms of education, this primarily means a sharp increase in its adaptability. This is possible through improving the organizational forms of educational practices, increasing the efficiency of training and providing these processes with an appropriate ecosystem.

For further project modeling and the possible development of processes of changing the level of adaptability of education, one should theoretically explicate the distinction between learning and education and, based on this distinction, introduce the concept of on-the-spot learning.

With the development of society, not only many needs appear, but also many skills and abilities that are required to satisfy them. In addition, the scope of knowledge necessary for humanity and the need for organizing the satisfaction of "knowledge" needs are sharply increasing. A person and a family, national communities, states, and corporations begin to depend on the qualifications of human capital, its ability to exercise activity as real subjects of knowledge consumption. "As a result, what is called education emerged — that is, a social institution whose purpose is to organize the mass process of general and vocational training in the interests of the state, corporations and, a little bit (individual - auth.) needs," Alex Krol, the founder of Serendipity Project University writes. He formulates the thesis that we completely share, that learning and education are different things, concepts and phenomena. "Learning is about how to teach a specific person. Learning is about knowledge and techniques, about teachers and students. Education is about how to organize the process of mass learning in many directions in order to satisfy the need of the state and corporations for qualified personnel. Education is about logistics" [6]. Overcoming incompetence (if it is understood as a lack or absence of knowledge to solve a problem) is possible only through the acquisition of knowledge using various educational technologies and teaching methods. Basic (type education) involves the "passing" of the individual as a subject of educational interaction along the chain: pre-school - school - post-school education. The last stage today includes university and postgraduate education. Bottom line: lifelong education, if you add ongoing education to this chain. The basis of the latter type of learning is the urgent need for additional knowledge (skills, competencies) and a rigid navigation system in the education ecosystem. The specifics of determination and satisfaction of exactly such an educational trajectory can be represented as the "process of human adaptation to new decision-making conditions by gaining practical experience and obtaining targeted knowledge just on time" [7]. The efficiency of learning in the online environment increases sharply, as it becomes possible to "combine" the educational environments of various educational organizations, which allows you to save money and often get unique opportunities to update your "intellectual-production background". The principles of "here and now", "just in time", "in the required amount" form the basis for the formation of on-the-spot online learning.

It is no coincidence that today the vector of development of learning and the vector of development of education are being implemented at different rates. The 4th industrial revolution and computerization deprived the state and corporations of the main monopoly that they had supported for millennia - a monopoly for the organization and distribution of knowledge.

Before the era of the Internet, they had this monopoly unconditionally and the educational systems they organized were geared towards the reproduction of a “mass - standard - lonely” individual. Teacher personified this activity. Today, Teacher is no longer a universal translator of knowledge, and the state is not its monopolist. The ecosystem of alternative education, its infrastructure meets the rapidly changing needs of the main subjects of educational interactions much faster. The learning vector is increasingly being translated into an individual algorithm, and such planes of this vector as brain neuroplasticity, genetic algorithm, ant colony algorithm are analyzed as qualitative signs of individual learning. The same Alex Krol

claims that “learning is a combination of ant and genetic algorithm, which can be both in the “with a teacher” and “without a teacher” version. [8]. However, these are prospects, and today we can quite speak about the prerequisites for their implementation. Most preferable in these options are various organizational forms of distance learning. Distance learning is an option of integrative learning with the minimum required ecosystem, complementing (not replacing -!) The classical form of learning. The founder of Interneturok.ru, the largest distance learning platform in Russia, Mikhail Lazarev defined methodological criteria for comparing traditional and online education [9].

Table 1.

Criteria	Traditional	Online
Standardization	All subjects are studied simultaneously. There is no way in class to return to the same question	The possibility to return to the topic and repeat it. The possibility to get carried away with one subject (and then pull up the others)
Individualization	20-40 students in a class	A child is one-on-one with a teacher or there is a virtual class for 5 people
Socialization	Communication with classmates	Communication with classmates by interests
Mobility	Only at school	Anywhere and anytime

The global educational services market has already exceeded \$ 5 trillion. Ever-increasing money supply goes to the organization of distance learning from this volume. In 2016, the entire education market in the Russian Federation was estimated at 1.8 trillion rubles (≈53 billion dollars), that is, the Russian market accounted for a little more than 1%. At the same time, four-fifths of the Russian market is in the hands of the state. The share of online education in the Russian Federation is almost several times lower than the global average, and in 2016 barely exceeded 1% (less than 21 billion rubles). According to forecasts, this indicator will rise to 2.6% by 2021, and in monetary terms, increase from 20.7 billion rubles up to 53.3 billion rubles. Maxim Spiridonov, one of the leaders of the “Research on the Russian market of online education and educational technologies” project and the founder of the Netology Group company believes (and not without reason) that “EdTech flagships in Russia grow by revenue up to two or three times a year. We are on the verge of a phase transition: following the “early followers”, distance learning technologies will be accepted and actively used by the mass user” [10].

The niche of online education today is considered very promising for startups, although many of them do not bring anything new to learning, rather more often initiate changes in the education ecosystem. According to experts, now 1 500-2 000 online schools are successfully operating in the country. They have the widest range of educational programs: from language training to trading [5]. The most monetary segments of the online education market are additional professional (6.7% or 7 billion rubles in 2016), additional school (2.7% or about 3.6 billion rubles) and higher education (1.8 % or 6.8 billion rubles). The digital technologies are the least actualized in general secondary

education. Webinars, skype workshops, online external studies are the main educational technologies used in this field of education. An instance is the “Naked Business” producer center. The company, headed by Nikolai Volosyankov, unites more than 20 profitable online schools of various kinds: language training, creating a store on Amazon, real estate courses, trade, and others. The total turnover of the center is 30 million rubles per month. The average bill for tuition in this segment is about 16 thousand rubles per year (in higher education about 47 thousand per year). According to surveys, 59% of parents accept the idea that their children will receive full secondary education remotely [11]. As can be seen from these statistics, online education is definitely leading in terms of ecosystem changes compared to traditional ones. While the market of electronic educational content is about 200 million rubles (only 0.03%) of the general secondary education market. Specialists in the field of educational law relate the temporary “backwardness” of e-learning to lagging legislation in this area from the pace of its real development (in particular, this is an unworked mechanism for licensing schools). Unlike general secondary education, the potential of EdTech in additional school education is very high. According to forecasts, by 2021 there will be approximately 7 million people (6.8%) of students receiving additional education, which in monetary terms is about 10.1 billion rubles. This clearly indicates the priority of additional education over the main one among the main subjects of educational interaction, on the one hand, and the growing role of civic initiatives in educational policy, on the other [12].

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The main players in the market of additional school education are the following:

1) Internet platforms. An example of such a platform is ACCEL, whose residents have already opened more than 2 000 online schools in different niches. Not all of them "survived" in the competition. However, the bulk is profitably functioning. Developed by ACCEL founder Sergey Kapustin and Dmitry Yurchenko, the project "How to open your online school" is in great demand on the Internet. ACCEL is an accelerator of online schools (info@the-accel.com) and the results speak for themselves: 28 000 graduates, 2 400 residents, 500 operating schools, 50 millionaire schools;

2) Online externships. Many high school students use the services of tutors, including via Skype while preparing for the exam and enrolling in universities. The combination of a regular school, tutors, and often additional courses is unrealistic even for those who are responsible and "made endured" in the educational process. The transition to a system combining a regular school and an online school seriously eases the load and allows you to achieve effective results. To comply with the law (to enroll for the Unified State Examination and receive a document on secondary education), online schools today conclude a subcontract with ordinary schools, lyceums, and gymnasiums. According to the agreement, the student goes to a public school to pass verification accreditations and exams. All bureaucratic procedures are carried out by licensed public schools. On the other hand, an agreement "student-online school" is concluded according to which the student is assigned with a personal curator (often a student of a specialized university); the schedule of classes is determined (at the same time, the tutor "takes on" part of the parental functions for maintaining motivation for studying and responsibility for completing tasks, as well as psychological support); topics of skypes and webinars. All this is necessarily agreed within the "online school - student - parents" triangle. A classic example of this type of online school is the Foxford School, founded in 2009 and being a part of the aforementioned Netology Group association, and a Skolkovo resident, which, in turn, is considered the Russian counterpart of Silicon Valley. Already in 2016, the Foxford school had a millionth user.

The main policy of the school's functionality:

- Assistance in improving grades, preparation for the Unified State Examination, Basic State Examination, Olympiads;

- In-depth study of particular subjects;

- Preparation for admission to the university;

- Saving money (2 times cheaper than a regular tutor).

Special Foxford online courses are designed for students in grades 5-11 and are designed for the different needs of students. Depending on the goals, all courses are divided into the following: basic, examination, advanced, Olympiad. Each includes 30 lessons of 2-3 academic hours once a week. Lesson recording remains with the student online. Homework is always carried out with interactive notes up to the tips. For senior classes, there is a separate externship with online training according to an individual program under the guidance of a personal tutor. By 2020, Netology groups will have formed a line of socially significant

educational projects for a period of 15-20 years of a person's life from a secondary school with additional education to a university with courses of additional professional education and special courses for school teachers, professional retraining courses, master's courses and MBA [13].

3) Content Libraries. Content is offered to choose from: from the selection of literature (printed editions) to the increasingly popular video content. Video content is presented in the form of coaching, animation, slides, communications, live videos on Facebook and Instagram. Video content is quickly replacing webinars, as it has a lot of game learning, suitable for younger and middle-aged people. In the formation of library content, technologies of virtual and additional reality (VR and AR) are often implemented. The former provides (with the help of technical devices) a complete immersion in the "material" being studied on the actual, and more recently, on the emotional level. Information is perceived by all senses, plus the mental level, which greatly increases the neuroplasticity effect of the brain. Virtual reality technology is very expensive to use and therefore is available to few. The technology of additional reality is much more democratic, both in use and in price. By downloading the appropriate application to the device, you can "boot" into the object from the inside. Visibility and safety are the two features that distinguish AR technology;

4) Tutoring service aggregators. Today, the tutoring market exceeds 30 billion rubles per year and is growing by 14% annually. The demand in them at any stage of the educational process, especially when preparing for certification at various levels (especially the Unified State Examination), once again confirms the lack of effectiveness of the traditional school. However, there is a great danger of "acquiring" as a tutor a not-so-conscientious "seller" of this educational service. Internet schools, having a sufficient "bank" of curators, can certify them simultaneously as tutors. This is clearly beneficial to those customers who, for various reasons, prefer personal communication in educational interaction. An undoubted plus is that the tutor, presented by the online school, has virtually unlimited informational, methodological, as well as didactic base and support.

Adaptive learning, virtual and additional reality technologies, micro-learning, artificial intelligence, and machine learning are considered the world online-learning trends. In Russia, these trends are just beginning their "ascent". The largest player in the Russian online market for educational services, the English language school SkyEng (capitalization of more than \$ 100 million) is actively using not only the traditional teacher-student interaction but also artificial intelligence with adaptive learning, although it is still limited by Skype. Sberbank Corporate University, the experience of which is described in detail in the work "Corporate Education in Russia: Status and Development Prospects" [14], actively uses VR and AR technologies in its laboratory for the development of these technologies.

The experience of "School - 21" of Sberbank of Russia, created on the basis of an agreement between the bank and the "42" organization of IT education, is widely known. This organization, one of the world leaders in online education, has granted Sberbank rights to licensed content and software, as well as methodological, educational and technical support. The duration of schooling is from 1.5 to 4 years, the operating mode is "24/7", without any payment. The main technology is project training individually and in small groups in person. Gamification is quite popular as a learning tool in Russian online schools. The accelerator of ACCEL online schools, 80% of whose residents achieve the result, actively uses game constructions of various degrees and volumes to increase motivation. Micro-learning as an online operational learning technique is practiced by many EdTech players: MOOC (Massive Open Online Courses) - platforms with millions of users (for example, Lectorium or Open Education), language schools, schools like Geek Brains, whose main task is to teach Internet professions [15].

V. CONCLUSIONS.

What is lacking in Russian online education today??

1) The evidence that the development of online education "takes on" the functions of traditional educational institutions, leads to the need to transfer to its functional classification and ranking of online schools with the appropriate qualifiers in the form of licensing and expert assessments. Suggestions of this kind in the form of Independent Testing and Qualification Centers, are already taking place. So, in the "Manifesto of the New Education System: from Instruction to Education (authors-developers M. Kushnir and P. Maksimenko) they write: "Independent Testing and Qualification Centers can evaluate any standardized competencies at any time at the request of the student. Then the school is freed from the function of monitoring the level of training ... In such circumstances, the school and/or teacher may be responsible for their duties directly to the customer, in particular to the student (parent). If there are a lot of customers for training, requests for the required competencies are multiplied - this puts the task of assessing different competencies to a new difficulty level. If the confirmation of competencies is carried out in the Independent Testing and Qualification Center, it is their documents that become significant, and traditional education documents turn into souvenirs. Instead of a bundle of certificates (as a result of micro-training - auth.), a "knowledge card" would be more convenient to confirm competencies at the stage of admission tests and interviews. The development of such a "knowledge card" standardized at the state or departmental level will make it possible to visualize the interview process: it is enough to have a published profile of the "knowledge card" for the required competence and compare it with the completed "knowledge card" of the applicant." [16]. And although this resembles professional testing cards of Western companies such as IBM or Microsoft, nevertheless it is the Western experience of "lifelong" corporate education that confirms the effectiveness of such educational practice.

2) According to forecasts, by 2019, video content will generate 80% of global Internet traffic. This puts on the agenda the technical equipment and computer literacy of teachers and students, as well as schools, families and other subjects of the educational process. This is an essential condition for the development of the ecosphere of online education. The "technologization" of the educational space in the Russian Federation is clearly insufficient. Consequently, access to virtual and augmented realities as educational technologies is also limited. According to the Monitoring of the Economics of Education, the level of use of personal computers in Russian schools was: in the 2006/2007 academic year - 2.8 per 100 students, in 2007/2008 - 4.0, in 2009/2010 - 6.3, in 2017/2018 - 9.1 per 100 students. However, today it is necessary to take into account that the number of smartphones has increased sharply and the main problem is not hardware, but in the organization of stable Internet access, that is, again about the organization of the education ecosystem [17].

3) It is clear enough that online education, devoid of face-to-face educational contact, is cheaper than "live" educational communication, full of emotional and intellectual flavor of shared cognition. In the family version of online, this niche is often "closed" by parents, but in most cases, it remains a weak point of online education. Therefore, today online education mainly solves the problems of operational training related to the limited spatial and temporal dominants of an individual order or the needs of a small team. The development of a phased online education - from basic knowledge to the level of an expert, is still a rarity. Therefore, idexif of online learning consists in expanding social mentoring (for corporations) and social learning with appropriate motivation. The main goal of today's online learning remains operational: clear answers to requests and consolidation of the necessary skills on the part of educators, the presence of motivation and willingness to self-education on the part of students.

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