

Innovative Development of Education Strategy in Russian Federation: Experience of "Future Skills" School Graduates Formation by City Organizations' Network Interaction

Sorokina Anastasiya Lvovna

Moscow Pedagogical State University

Institute of social-humanitarian knowledge

Department of educational systems management

Abstract

The article is devoted to the strategy of innovative Moscow education development and the priority directions of the state education policy. According to modern research, a universal map of key drivers and Megatrends of education development in Russia and the whole world has been compiled. The generalized map of «future skills» with the author's interpretation is given. Implementing the elements of educational strategy into personal practice author introduces in detail the system of career guidance in secondary school, which contains such elements as: the matrix of a graduate school competencies, network partnership, open urban educational space. The author also describes his own experience of the network partnership system organization at building individual development trajectories for students of 14-17 to form the skills of the future and ensure comprehensive development. The practical recommendations and analysis of emerging issues are given. The author raises issues on the content of modern education, pre-profile and profile training and students' readiness for self-realization and life in the society of the modern metropolis.

Keywords: strategy of education development, "future skills", key competences, network interaction, global trends, career guidance, professional tests, management of educational systems.

Introduction

«The future is uncertain and alternative in principle»

Modern researchers, experts and managers in the system of educational relations have no doubt that the education system must change. It's due to ongoing global changes, increasing the gap between the learning outcomes of modern graduates and the requirements for the sets of competencies of present and future employees. Such problems remain important: a high degree of schoolchildren' anxiety accompanying the choice of "professional life path", one profession "for the whole life" under the pressure of conservative teachers and parents (who grew up in an outdated paradigm); graduates' dissatisfaction of their profession choice, neurotic conditions, negative emotions associated with the opportunity to make a wrong choice.

The existing forms of career guidance, designed to help students with professional self-determination, create a certain paradox: higher awareness - the higher the anxiety in the rapidly growing world. Thereupon, the main achievement of the secondary school, according to the author, is the willingness and desire to get the lifelong learning with the cognitive interest as a sustainable need to develop and expand your knowledge.

Based on the many years' researchers, European scientists describe the future world with the abbreviation VUCA, which means: Volatility, Uncertainty, Complexity, Ambiguity (Bennett, Lemoine, 2014). According to The WorldSkills Russia and Global Educational Futures development groups, who are engaged in forecasting the future professions image and selection of appropriate competencies, changes in educational systems will occur under the influence of global trends.

1. Technological trends:

digitalization (Internet of things, Big data, artificial intelligence);

automation and robotization (cyber-physical systems, automation of cognitive and physical labor);

2. Social trends:

demographic changes (increase in life expectancy and the age of the active working population, reduction young people amount in working age; change the women role and the model of childhood);

network community formation (networking, meaningful consumption, gamification);

3. Techno-social trends:

globalization (economy, knowledge, technology);

ecologization (education for sustainable development (Ursul, A., Ursul, T., 2013).

All positions are influenced by a single megatrend - exponential acceleration of the changes' rate.

In this context, groups of critically needed for future success skills are emerging. Partnership for the 21st century skills, Center for Curriculum Redesign, SKOLKOVO scientists and others tried to determine a list of basic 21st century skills: concentration and attention management; emotional intelligence; digital literacy; creativity; ecological thinking; cross-culture; self-education (Davies, Fidler, Gorbis, 2011).

According to these researchers, there is an objective need to find a new approach to building a model of skills. Instead of hard skills and soft skills are proposed to consider the contextual (specialized), cross contextual and existential skills. Contextual skills are required to perform work functions in specific professional areas and exist with these functions and operations. With the change of technology, or in the case of replacing human labor on the labor of the machine, highly specialized skills gradually disappear. Cross-context skills have a longer life cycle and can be used in various fields. It is the basis of effective human activity. As existential skills are used by a person throughout life in various contexts, improved and transformed. For example, willpower, goal-setting, reflection. Their relevance increases with age.

It is obvious that a fundamentally new result cannot be obtained on the basis of the traditional approach (Fadle, Bialik, Trilling, 2016). So, there is a problem of approaches, forms and methods of teaching and the educational process organization revision. Today, however, there is a predominance of the last century values in educational systems: one education for life, long staying as a one organization' employee, unification, the monotony operations, linearity in education and work. The challenges of the 21st century require a fundamental change in the educational paradigm towards the development of creativity, planning activities, implement multidirectional projects, manage human, information and material resources. The skills' obsolescence is faster than an education receiving. The educational paradigm should turn to the student' personality even more than it has been postulated since the beginning of the era of humanism development to reveal the unique potential of everyone. This is hampered by the implementation of standard tasks, the prohibition or limiting initiatives, a strong separation of various educational institutions, which does not contribute to understanding the education as a single ecosystem. But there is a certain progress in this direction. Educational organizations are gradually becoming a place open to different age groups and people with special needs, comfortable for family stay. There is a tendency to transfer schools and universities to the status of basic platform or «attachment points», serving as the starting point of an individualized educational route. Part of the educational content is placed on the e-learning platforms, freeing up time for the practice. The most important change is teachers' role change and understanding the plurality of knowledge sources, awareness of the need for continuous education.

Let us turn to the data of the non-profit independent group of researchers Institute for the Future for the University of Phoenix Research Institute and Apollo Research Institute in California. The developers identify 6 key «drivers of change» that will determine the future education system development:

1. Extreme longevity. The number of the working-age population over 60 is increasing. Career and educational track approaches should also change.

2. Rise of smart machines and systems. What can be done by people only? Where is man's place in the world of machines?

3. Computing world: big data and its processing methods create the basis for the formation of special thinking – thinking based on data analysis in decision-making (data-based decisions); the use of big data for scientific development forecasting (design outcomes).

4. New media ecology: text-based media are being transformed under the increasing influence of infographics and other visual communication media.

5. Super-structured organizations: organizations are restructured according to the laws of game design, neuroscience and happiness psychology, forming new management model.

6. Globally connected world: open space sets a new ethics of interaction.

It can be noted that the key drivers of development set as an objective imperative the lifelong learning principle. In accordance with the above directions, the researchers derive 10 key competencies that ensure the success of human self-realization in various fields:

1. Sense making. There will be a demand for innovative, creative thinking, unique ideas, «new meanings».

2. Computational thinking will be needed for big data interpreting and creating abstract models in the imagination.

3. Social intelligence, as the ability to effectively interact and build communication with other people based on developed emotional intelligence.

4. Novel and adaptive thinking, as the ability to find creative solutions to non-standard tasks and respond to permanent situational changes. In Russian Federation a separate direction in the higher education system is developing. It's called the theory and practice of innovation management, pedagogical innovation.

5. New media literacy. When the information becomes too much, there is a need for critical thinking, analysis skills and creating new content with visual dominant.

6. Cross-cultural competency, as the ability not only to interact with representatives of other cultures, but also to understand the characteristics of different cultures and to cultivate a tolerant attitude to them. It is important to understand that cross-cultural literacy is required not only for travel or work abroad, but also will be necessary for almost everyone who will be part of the large planetary super-structural organizations.

7. Transdisciplinarity. Solving modern practical problems requires competence in various subject areas

8. Design mindset or creative thinking, the ability to transform reality in accordance with the desired result.

9. Virtual collaboration. Working in super-structural organizations will allow companies to combine employees located in different countries and continents to solve similar problems.

10. Cognitive load management as the ability to cope with the flow of information, differentiate tasks, plan activities and reduce cognitive load through specially designed techniques (Luksha, Ninenko, Loshkareva, Smagin, Sudakov, 2017).

Systematizing the different researches' results, the author attempted to classify the key trends and future skills, and a number of other factors that affect the modern education system.

The education system in Russia is developing under the influence of the requirements of the Federal state educational standard (FSES), social demand from parents (legal representatives) and students themselves, who have expectations different from the characteristic expectations of previous generations. Large companies also have the requirements for the competence of graduates

Scheme 1 shows three groups of key trends or « drivers of change» among the factors influencing the modern education system:

1. Social trends. The age and sex composition of the working-age population is changing. The proportion of workers aged 65 and above is increasing. The data are mixed among young people. Some of them tend to start building their careers earlier, take an active part in government projects, develop as volunteers, looking for business connections. Others, in a situation of variability and instability, do not seek to start working.

Media ecology as a special science studies special types of communication (not only the subjects' interaction, but also the communication component of objects and environments).

2. Technological trends. There is a process of wide automation and robotization, which raises issues about the man' place in the world of machines and the «new» interaction ethics with the systems of «artificial intelligence».

3. Geopolitical trends reflect the current desire to create open systems and raise the range of problems associated with cross-culture, mobility, world corporations' work.

All these processes are influenced by the General mega-trend - acceleration. In an attempt to answer the question of what skills will help to become successful, the researchers offer a set of key competencies that, in their opinion, will solve the problems of mobility, flexibility and adaptability, which can also be summarized and lead to a single scheme (Scheme 2).

The need to ensure the country competitiveness on the international scene poses an obvious problem of the human capital formation, which has all the above characteristics and such competencies that would allow it to adapt to new requirements in the future.

The content of the report made at the 37th session of The United Nations General Conference of Sustainable Development «Medium-term strategy: 2014-2021» emphasizes the need for cooperation and achieving synergies in the joint scientists' research and overcome isolation and programs' fragmentation ("Medium-term strategy: 2014-2021", 2014). An interesting position is the priority of staff rotation, specialists' decentralization and focus on the regions' needs. In Russia mechanisms of personnel rotation and updating of teams, creation of network communities are being implemented. The motivation for constant improvement and creativity makes the «effective employment contract», which establishes incentives and criteria for the quality of work.

A major step towards international cooperation in improving the education systems and shaping the image of the future was the research by international company the Boston Consulting Group (BCG), which also includes Russian analysts. The company conducted large-scale interviews with representatives of top management of the world's largest companies, as well as Russian employers. One of the research directions was to identify employers' expectations regarding future employees and their requirements in the context of priority areas of the companies' development. The starting point is a gradual orientation to the «knowledge economy», where people with high cognitive abilities, developed abstract and design thinking, the ability to act in conditions of constant change both working independently and in working groups can successfully act. At the same time, Russia has a low share of employment in high-tech industries, which is due to the total lag the education system from the real practical problems (Pellegriano, Hilton, 2012).

Realizing the importance of high educational results for the prosperity of the country, Russia starts to discuss new long-term strategy of education development, determining the mission, key priorities and directions. For the first time, the development of the Strategy was entrusted not only to experts of the Russian Academy of Sciences, but also to "practitioners", those people who daily solve the urgent problems of training and education – teachers and principals, as well as parties directly interested in the level of training of future specialists - potential employers, large companies, businessmen.

Planning Russia's socio-economic development strategy in 2024-2035, the Higher School of Economics - National Research University and the center for strategic research presented a report on 12 solutions for new education, understanding that the education sector will become the backbone of the future technological market ("12 solutions for new education", 2018).

«According to the Global Human Capital report – 2017 (Stefanova Ratcheva, Riordan, Takahashi, Thompson, Toscani, Vijay, ... 2017), Russia has a very high 4th place in the world in terms of human capital (measured mainly through the coverage rates for different levels of formal education), but only 42-e place in the parameters of the real use of skills and involvement in lifelong learning. At the same time, Russia occupies 89th place in the world in such important indicator for economic growth as «availability of qualified specialists». The real impact of formally high education level on economic growth and its sustainability is very small. The reason is seen in the permanent lack of funding, so the system can exist, but not develop.

In a Message on March 1, 2018, the President of Russian Federation announced the need to increase funding for the education system. «All the proposed scenarios of financing the education system development suggest the digital

transformation of education and the widespread use of public-private partnership (hereinafter – PPP). There is practically no alternative to these tools: the results similar to digital education can be obtained on a traditional basis only by doubling the education budget to 7% of GDP. In turn, the PPP will allow to "move" part of the budget expenditures for the period 2024-2030 and to get the modern infrastructure of schools in 2020-2022.

In Russia, there is also a problem as the lack of a system for identifying and supporting talents in the field of high technology, design and sciences from non-school program. Less than 40% of high school graduates, 20% of college graduates and 50% of University graduates had experience of project activities and social practice».

Researchers offer 12 projects, which will help to solve these problems.

1. Support for early development by patronage care for 0-3 children (persons with disabilities up to 6 years). The work of specialists, based on early detection and correction of development risks, will reduce the percentage of children with a low degree of readiness to study at school.

2. «School of the digital age» includes new digital educational development and methodical complexes, which provide individualization, objectification of the achievements assessment and reducing non-pedagogical load; educational games and simulators' implementation.

3. The modern material education infrastructure is the implementation of the environmental approach in education. The school becomes an educational, cultural and sports center for children and adults.

4. Equal educational opportunities and success of everyone: preparation for school programs for preschool age children; targeted assistance to low-income families; reduction of inequality of educational opportunities

5. New technological education in school and secondary vocational education: the educational programs content modernization; creation of workshops, network forms of education, the creation of youth innovative and technical creativity centers and their integration, new forms of assessment.

6. Development and support talents: specialized high-tech camps and schools; grant and scholarship support.

7. The lifelong learning system launch.

8. Universities as centers of innovation in regions: specialists decentralization, regions financing, support of innovative development.

9. Fundamental research in higher education, global universities, the Russian Academy of Sciences: the universities conclusion to the international arena and the international projects implementation, support graduate students.

10. Increasing global competitiveness through the export of professional education: the development of international exchange programs for undergraduates and graduate students; open educational platforms creation; modern educational environment formation.

11. Modern content of school education: updating the content of educational programs and methods.

12. Personnel for the development of education: updating the principles of human resources development.

These projects are certainly within the competence of the Russian Federation Government. However, it is possible to set the task of finding practical mechanisms and conditions for projects implementation to the teachers.

At the moment, a wide public discussion on the strategy of Moscow education development for the period up to 2025, which was called «Strategy 2025», has been initiated in Moscow. As a result of a number of strategic sessions in Moscow schools, four main development directions were formulated and proposed to the General public, which can become the basis of the strategy of education development in Russia:

1. System of personalized educational trajectories in open groups. It is an opportunity to make flexible curricula based on the needs and interests of each student, as well as to give the opportunity to engage in subject training at various sites of the city (schools, resource centers, universities, colleges, youth creativity centers, etc.).

2. Distributed assessment in the system of talents – assessment of students' achievements in various fields with subsequent offset as an incentive to continuous multi-faceted development. It can be subject and metasubject Olympiads and competitions, achievements in the field of sports, culture and art. All so-called «digital footprints» will be the components of a single open portfolio. Such system removes the school's monopoly on the graduate evaluation.

3. City as school. Moscow is a space of unlimited opportunities for the development of talents, and the teacher - navigator in it. It is important to note that the programs proposed by the city, which are implemented in organizations of different levels and directions, can and should be integrated into the class-oriented system. The school becomes a basic organization for attaching students on a territorial basis and storing their personal documents.

4. «Urban school» - the principle of a single map of micro-district resources existence, which allows you to get quality education in all directions without need for long daily trips.

These central ideas are supplemented, transformed and developed by pedagogical collectives. Here are the main proposals made during the discussions, and recorded in the articles and reporting documents.

The future of education is seen in the large-scale cooperation of various organizations to create an open educational environment, to expand students' ideas about different professional environments, life and work in modern society. Network partnership, as a form of such interaction of organizations, creates conditions for joint activities, joint project management, development of human, innovative, technical, material potential.

Together with industrial organizations, business structures, educational institutions, it is possible to build a system of advanced offers based on the target model of future competencies, to include employers in the system of early professional training. An interesting practice is the conclusion of deferred employment contracts with a delayed start date. Employers offer students to solve cases. Technology parks and universities provide technical support to implement project solutions. The best intellectual solutions are rewarded, and children who have shown special talent are invited to the enterprise. Under the terms of this agreement, the child undertakes to enter the University in the chosen specialty, and the company guarantees him practices' organization and subsequent employment, but with a number of conditions for the quality of knowledge and competencies.

For the system's work, the following aspects need to be introduced: single open score-rating system for educational and non-educational results evaluation; offsetting results from different organizations. All data should be entered in the student's virtual record book, open to employers and universities.

On the basis of Moscow state school № 1028 level system of the Federal standard requirements implementation through a three-stage system of networking is tested.

The interests and opinions of all stakeholders are constantly monitored. These parties are the pedagogical community, parents, students, employers (figure 3).

At the same time, educational activities are being carried out, which include a specially organized lecture for the parent community not only with comprehensive information about the changes that are taking place in the region in the context of education and subsequent employment, but also answers to all questions. For students organized meetings with representatives of various professions (project «100 questions to a professional»), universities make interactive role playing games and quests about professions. The pedagogical community also needs constant updating of its knowledge. Maximum clarity and openness is also achieved through information support, which is provided by timely notification of upcoming events, sending lecture materials, «feedback» publication after the events. The described mechanisms can be represented in figure 3.

The result of the regular work is the competence maps and maps of partners' resource capabilities, which allow to choose the conditions for any competencies development. Let us consider the "classical" profiles' example: physical and mathematical, chemical and biological profiles.

By analyzing the programs of primary vocational education and the first stage of higher professional education, as well as based on the Federal standard requirements, you can make a detailed list of competencies that are formed in colleges and universities during the first year. The second source of material for competence maps is the interview partners about 'portrait of the University entrant', as well as companies-employers about changes and new activities.

The second aspect of the analysis and the second component of competence maps is the type of educational event, within which one or another competence can be formed to a greater or lesser extent. By comparing the capabilities of partners, as well as significant competencies for each profile, you can build a trajectory of participation in educational events for them. Thus, digital competence, team time-management and communication competence are most effectively formed in the process of «hackathons» and «designathons». The deepening of subject skills and knowledge implementing with participation in the work in the university fabrication factory. If we talk about the chemical and biological profile, the students who choose this profile in order to prepare for admission to the medical University, can get the required skills and initial professional knowledge in the process of volunteering within the all-Russian movement «Volunteers-physicians», working in the city clinics. The map of partners' resource opportunities allows making the detailed list of ways of receiving new knowledge, abilities and skills and also formation of competences in specific types of activity.

The level system of work organization and creation the environmental conditions for obtaining practical experience in the primary classes contribute to implementation of the Federal standards requirements (figure 4). The processes in urban resource centers are adapted for similar events, actions, projects at school. One of these areas of work is the school volunteer center, which contains the same areas of work that are available to urban volunteers who have personal volunteer books and take part in urban projects. Work in the school volunteer center is available to students from 4th grade (9-11 years old). Upon reaching the age of 14, students receive city personal volunteer books.

As part of the volunteer center, students get acquainted with the world of professions. Starting from the 8th grade (in some projects – from the 7th grade) students are involved in such new formats of interaction as hackathon, designathon, work in fabrication laboratory, etc. At the same time, potential employers offer real production tasks, watching the progress of the solution searching. The most successful can be invited by these companies for internships and other events, as well as receive directions to the target admission to the profile University. In addition, participants gain new knowledge, practical experience, as well as understanding of the specifics of activities in a particular professional area.

It is assumed that by the end of the 9th grade graduates will form an idea of the possible trajectories of building future educational and professional activities, one of the options of which is to study in specialized classes. Scheme 5 shows the system of interaction at the indicated levels. To satisfy the demands in career guidance, volunteer activities, primary professionalization, a system of relationships is organized through the special projects and programs implementation.

An example of three-way interaction is the interaction of Moscow state school № 1028, National University of Science and Technology «MISIS» and Aviation complex named after S.V. Ilyushin (provides career guidance for students to carry out targeted recruitment in the universities in the appropriate direction). NUST MISIS provides ample opportunities to deepen their knowledge in the laboratories of Fab lab, educates teachers who teach specialized disciplines and elective courses to ensure training of applicants that meets the requirements of the employer.

The diagram 6 shows another example of the development trajectory organization for students of information-technology profile. The first «profile» event is participation in the stages of the all-Russian and Moscow schoolchildren Olympiad and mentors assignment to prepare for Junior Skills Russia and World Skills Championships. The students are then distributed to the partner universities. Short courses are specially organized by the partners for training. The head teacher selects the events corresponding to the profile. By the end of the year, a team of students with the highest motivation is formed, which continues its development in project activities (Maker Fire Moscow, Designathon). At the end of the year there is a summing up of the work and the formation of the plan-program for the next academic year.

As a result, the following requirements of the standard are implemented:

1. Creation of special conditions. Network partners under the agreement on scientific and methodological cooperation offer to use their resource capabilities, both in terms of equipment and in terms of laboratory and other specialized facilities, which can significantly expand the subject and metasubject skills, as well as to form an idea of the working and scientific activities.
2. Self-organization and planning. The implementation of own projects, actions and programs, including voluntary ones, contributes to the development self-organization skills, effective time management and planning of its activities and the project team activities.
3. Problem solving and goal setting in group and individual work and skills of applying the knowledge in practice.

4. Orientation in the scientific and professional world. Staying in specialized laboratories, resource centers and production allows you to get acquainted with the real problems that are solved by professionals in various fields.
5. The primary professionalization. Existing state projects allow students to obtain primary professional knowledge and skills.
6. Scientific creativity. A large number of scientific research and projects competitions for students allow making a contribution to their personal portfolio, to receive a grant, to attract the attention of a potential employer and to build a unique trajectory of professional development.
7. Social portrait of a graduate and a citizen.

These skills groups formation with network interaction is a managed process. We can identified the following aspects:

1. Determination the map of resource opportunities that are formed on the basis of the school resource capabilities, opportunities and proposed programs from partner organizations, content infrastructure of the district, urban educational projects and programs and their classification by areas (high technology, medicine and health, biology and chemistry, psychology and pedagogy, patriotic education, etc.).
2. Definition of target groups: students with special needs (gifted and persons with disabilities), students from specialized and pre-profile classes; students with high abilities and interest in certain types of educational activities.
3. Establish a process for working with each target group.
4. Collection of statistical data on the results of the work and the formation of interrelated databases.

Let us dwell on the key stages of work with target groups of students.

1. Professional testing and analysis of personal characteristics with the involvement of school psychological service and partner organizations.
2. Formation the individualized cloud of professions.
3. Discussion of an individual request and search for optimal solutions that satisfy the development in the chosen direction.
4. Resources selection on the basis of existing maps of resource opportunities.
5. Building a trajectory for a certain period in accordance with the task.
6. Tutor support and navigation in the urban environment.
7. Joint analysis of results and trajectory correction.

Content aspect of work with some categories of students:

«profiled tests»;

help in choice of field of study in 8th and 9th grades and help in changing the profile in 10-11th grades;

selection of additional education resources (including outside school);

profile events selection;

mentoring, scientific guidance;

preparation and participation for educational events;

psychological support.

It is also important to work with 7-11th grades and parents to get acquainted with the following areas:

excursion work - Universities, Colleges, employers, trades and etc;

educational forum;

city event navigation;

projects of Moscow state school № 1028 - «Parents' club», «100 questions to the professional», «Day of profile school» professional volunteering («Volunteers-physicians», etc.)

Tables of key events in the areas help to visually trace what events have a decisive influence on the various skills formation. You can create individual trajectories for groups or individual students using the tables (table 1).

The tables allow to structure the «annual event plan» of various partner organizations, as well as city structures and to rank these events depending on the impact on the formation of individual competencies (table 1, the color of the cell reflects this characteristic). The tables are used in the preparation of the annual plan of activities, planning work with specialized classes, can be used by administrative staff, subject teachers, class teachers.

Within the framework of the development of network partnership, another project is being implemented at the School - «Day of profile school». «Day of profile school» opens the entrance to all interested residents of the district - students and their parents. Approximate age of participants: school students aged 13-18 (7-11th grades).

The purpose of this event is to promote the students' career guidance and formation the ideas about different professions, forecasts about the future professions. All School's partners are invited to the «Day of profile school».

There are three possible events directions or the «Day of profile school»:

1. Information and consultation platforms: each educational institution has the right to bring visual aids to present its educational programs and training areas, subject Olympiads and etc.
2. Practical master classes related to different professions.
3. Educational lectures for parents, especially about the modern education system.

The difference of this event is the system of motivation for students developed in School. Each participant receives a «labor book» with the event's program. If the student has successfully passed the master class, he gets a special sticker, called «quality mark». Getting 5 marks gives the opportunity to get the assessment «excellent» to any subject on the student's choice, so it is important students learn something new for themselves attending master-classes, lectures or trainings.

As a rule, the declared master-classes are repeated during the day with a certain time interval. In order to avoid time mismatch, usually the duration for all master classes is 30 minutes, and they are held in parallel.

Other projects implemented within the School are also aimed to the future skills formation. Thus, at present, a project of intercultural interaction is being implemented and designed to solve some problems of learning a foreign language in a secondary school, as well as to form students' motivation to study it. This project involves the creation of conditions for intercultural communication with a native speaker through the organization of a teleconference. School foreign partners, high level students could be a «native speaker». The second subject of communication is 10-11th grades student, 8-9th grades motivated children, capable and willing to practice communication skills, as well as 4-7th grades, showing high ability to master a foreign language and participating the project as listeners or subjects of communication in order to support and develop interest in the subject as a whole.

The meta-substantive results of the project include: working with large amounts of information skills, digital literacy development and the ability to work in an information environment, planning activities and organization of educational cooperation, results presentation. As for personal results, we can note the improvement of the following skills: self-development, formation of educational motivation and cognitive interest, the ability to work in a team, effective time management, setting goals and achieving them, as well as tolerance towards representatives of their own and foreign cultures.

To implement the Distributed assessment in the system of talents strategy Moscow state school № 1028 introduced a system of student's record-books and score-rating system of achievements accounting and evaluation. The system doesn't involve the transition to the rating plan in assessing the academic results and doesn't replacing the traditional 5-point assessment system. Student's record book - a document reflecting his academic performance, educational achievements, participation in social, sports, cultural, creative, volunteer and other activities in the form of rating. Record book allows you

to increase motivation for the regular work, stimulates cognitive activity, makes an element of competition, allows you to make decisions on various encouragement forms.

The structure of the record book: the title page; subject results; additional education; research and project work; performances and competitive work; cultural and creative activities; volunteering and social practice; minor Academy of Sciences; excursion and educational activities; the final evaluation of the activities.

The projects «School Cup» and «Class Cup» are tested as the system of motivation and encouragement for high achievements element. The school Cup in the team competition is awarded to the class that scored the highest rating score on the sum of the rating points of all students in the class. The school Cup in the individual competition is awarded to the student who scored the highest personal rating score in the school. Class Cup is awarded to the student who scored the highest personal rating score in the class. The appendix to the Cup is a certificate indicating the final score. Penalty points are awarded to students for violations of the Charter of the school: disciplinary violations, appearance that does not comply with the Charter.

The modern education system has many difficulties. This is due to the requirements of the participants of educational relations, the increasing requirements of reality, includes robotics, automation, the disappearance of old professions and the emergence of new professions and entire groups of specialties. There are issues not only of interpersonal interaction, but also of interaction with «smart machines and systems». Experiencing the influence of global trends, the education system should make timely changes that would provide both a level of fundamental training and other tumors that give graduates the opportunity to find their place in the «new complex world». The space of a modern metropolis contains unlimited resources that can be used in the educational process under the guidance of a competent tutor.

Realizing the importance of human capital for the competitiveness of the country, Russian Federation has initiated the wide discussion process of the innovative development educational strategy, where the main role plays the opinion of the «practitioners» - teachers, principals, employers, business structures. Based on international studies it becomes possible to form maps of future skills, change the content in educational programs and curricula, use new formats of education. The emphasis is on the network interaction with partners, joint creation of programs. Education is becoming open and accessible.

Moscow state school № 1028 practical experience in the formation of graduates' future skills shows a positive presented projects result. There is a high interest of students to new activities, the development of modern technologies, high adaptation to new forms of work. There is an active inclusion of students in the process of drawing up flexible individual training plans, management decisions, school self-government. The experience gained during the implementation of projects can be supplemented with new ideas and adjusted depending on the conditions of the educational organization and further development needs.

References

- [1] «Medium-term strategy: 2014-2021». Doc. 37 C/4. UNESCO, 2014 Retrieved from <https://www.iaea.org/about/overview/medium-term-strategy>
- [2] Autor, D. (2010). The Polarization of Job Opportunities in the U.S. Labor Market: Implications for Employment and Earnings. Washington, DC: Center for American Progress and The Hamilton Project.
- [3] Bennett, N., & Lemoine, G. J. (2014). What a difference a word makes: Understanding threats to performance in a VUCA world. *Business Horizons*, 57(3), 311-317. Netherlands: Elsevier.
- [4] Davies, A., Fidler, D., Gorbis, M. (2011). Future work skills 2020. Retrieved from http://www.ifit.org/uploads/media/SR-1382A_UPRI_future_work_skills_sm.pdf
- [5] Dorozhkin, E., Davydova, N. (2013). Development of educational institutions in the course of networking // Higher Education in Russia. No. 11. P. 11-16. Moscow: Typography Science.
- [6] Expert report «12 solutions for new education». (2018) Retrieved from https://www.hse.ru/data/2018/04/04/1164616802/Доклад_образование.pdf
- [7] Fadle, Ch., & Bialik, M., & Trilling, B. (2016). 212. Four-dimensional education. Moscow: SKOLKOVO.
- [8] Kurbanov, A. (2013). Social partnership - the factor of competitive specialist training / Professional education in the context of regional development. Under the editorship of Shabalina, J. Moscow: Education 3000.
- [9] Luksha, P., & Ninenko, I., & Loshkareva, E., & Smagin, I., & Sudakov, D. (2017). Future skills. Retrieved from http://www.ifit.org/uploads/media/SR-1382A_UPRI_future_work_skills_sm.pdf

- [10] Matveeva, L. (2008). Analysis of the concept of “social intelligence” // Bulletin of the South Ural state University. Ser.: Psychology. 2008. No. 33. P. 51-55. Chelyabinsk: Publishing center of South Ural state University.
- [11] OECD (2016), OECD Science, Technology and Innovation Outlook 2016. OECD Publishing. Paris. Retrieved from https://doi.org/10.1787/sti_in_outlook-2016-en
- [12] Pellegrino, J., Hilton M. (2012). Education for life and work: Developing transferable knowledge and skills in the 21st century. Washington, DC: National Academies Press, 242 p.
- [13] Stefanova Ratcheva, V., Riordan, J., Takahashi, M., Thompson, Y., Toscani, J., Vijay, Y., ... (2017). World Economic Forum // The Global Risks Report 2017. 13rd ed. Retrieved from <http://www.mmc.com/content/dam/mmc-web/Global-Risk-Center/Files/the-global-risks-report-2018.pdf>
- [14] Ursul, A., & Ursul, T. (2013). Megatrends of the third Millennium education evolution // The Image of the future man: Whom and how to educate in the younger generations: collective monograph of Bazaluk, O. - T. 3, 39-95. Kyiv: International society of philosophy and cosmology.
- [15] Zagvyazinsky, V. (2014). Will there a Renaissance be? Strategy of innovative development of Russian education: monograph. Moscow: Logos.

Figure 1: Factors affecting the modern education system

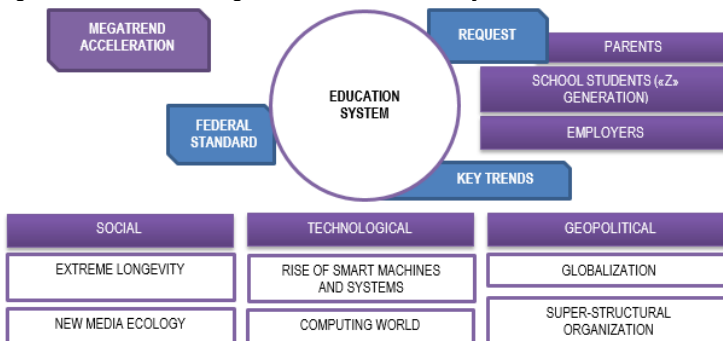


Figure 2: Groups of key competencies of the XXI century («future skills»)

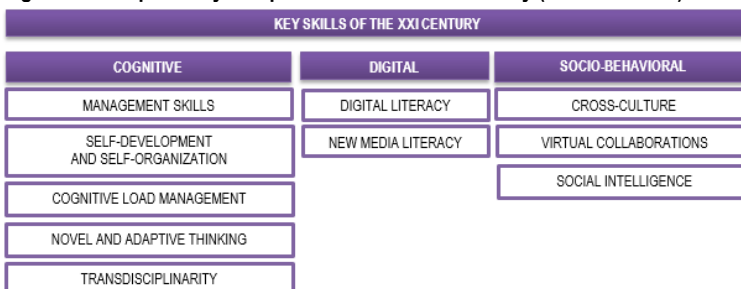


Figure 3: Main directions of work in the organization of network interaction system in the school complex

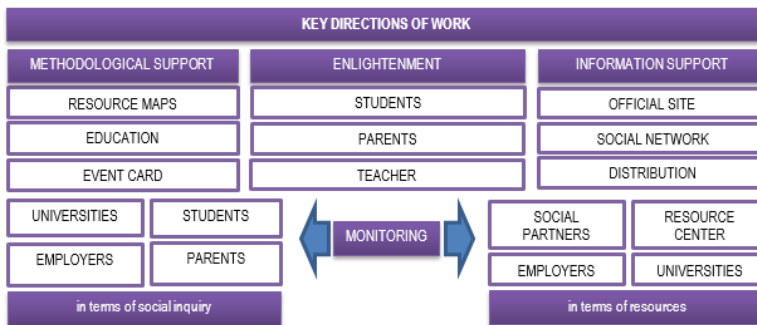


Figure 4: Level system for creating conditions for implementation of GEF requirements

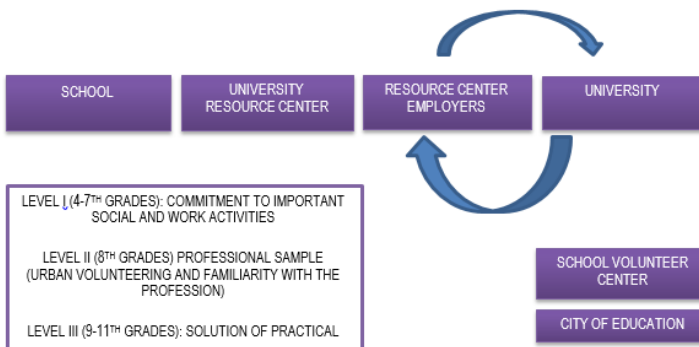


Figure 5: System interaction network of partners, projects and programs in Moscow state school № 1028

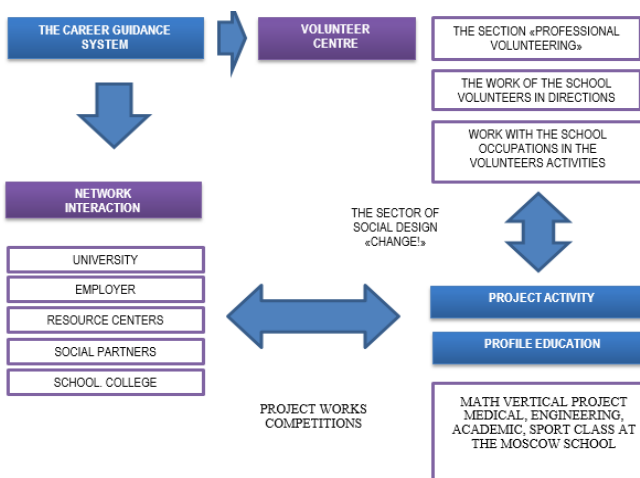


Table 1: Urban educational opportunities in the formation of the «future skills»

PROFILE	FUTURE SKILLS	«THE PROFILE RESOURCE»
Socio-economic profile		Project of intercultural communication with foreign partners
		«School of human rights defenders» project
		Thematic competitions in the universities
Chemical and biological profile		Volunteer centre
		Training in special laboratories (engineering, medical class)
		«Learning without borders» project
Profile of information technology («mathematics- Informatics»)		International competition of children's engineering teams
		Thematic programs of pre-professional training in universities and colleges-partners (including training for Junior skills, «Ready for life, study and work» project)
		City projects («Mathematical verticals»)
Universal profile		Training in special laboratories (engineering, medical class)
		Lessons in specialized laboratories, centers of youth scientific creativity
		«Proectoriya», «Factories for children»