

USSEQ

Unified system of school education
quality assessment in Russia



FEDERAL SERVICE FOR SUPERVISION
IN EDUCATION AND SCIENCE

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At present, All-Russia unified system of education quality assessment allows monitoring students' knowledge at different levels of school education, promptly identifying and solving problems of the school education system in terms of subjects, schools and regions.

This system provides an opportunity to get a full picture of education quality in the country, to analyze and take into account the impact of various factors on the results of the work of schools. Through this system, schools can conduct self-diagnostics and identify existing problems, and parents can receive information about the quality of their children's knowledge.

The system of assessing the quality of school education in Russia is currently a multi-level system, consisting of several procedures. The first important procedure introduced within the framework of this system is the national examination conducted at the end of 11th grade. This exam is called the Unified State Examination (USE), and is compulsory for all school leavers since 2009.

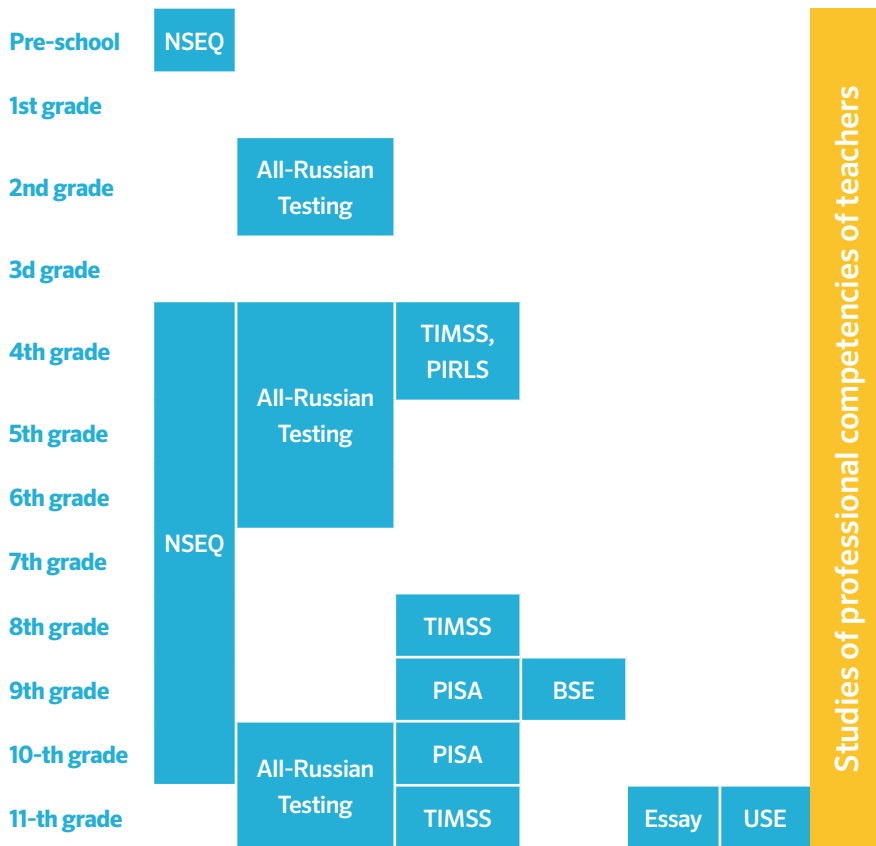
The second important procedure of the education quality assessment system is the State Final Certification of the 9th grades (SFC-9), the main form of which is the Main State Examination (BSE). Based on the results of SFC-9, a student can continue studying in high school and in institutions of secondary vocational education.

Intermediate assessments of students are conducted in different subjects and in different grades with the help of the National Study of Education Quality (NSEQ) and All-Russian Testing.

In addition, Russia participates in international studies of education quality. These studies make it possible to understand how competitive the Russian school is today, to identify and compare the changes taking place in the education systems of different countries, to analyze the factors that have allowed the leading countries to succeed.

Assessment of school students' knowledge is complemented by studies of professional competencies of teachers.

All-Russia Unified System of Education Quality Assessment





The organizational infrastructure for the formation of Unified System of Education Quality Assessment is provided by institutions subordinated to the Federal Education and Science Supervision Agency (Rosobrnadzor). These include the Federal Institute for Pedagogical Measurements (FIPI), which develops monitoring test materials for a number of assessment procedures, and the Federal Institute for Education Quality Assessment, whose function is to coordinate research in the field of quality evaluation both at the international, all-Russian and regional levels, excluding the conduct of state final certifications.

We can distinguish five basic principles underlying the structure of the Unified System of Education Quality Assessment.

1

Assessment is an integral part of the educational process

Since feedback is important, assessment of quality of education and knowledge of school students is an integral part of the educational process.

2

Unbiased assessment

Objectivity of assessment is crucial. In the case of biased data, it is impossible to make effective managerial decisions promptly.

3

Assessment of what was taught

Assessment of what was taught. An important issue is the ongoing work of the Ministry of Education and Science of Russia in the field of development of the core content of education and adjustment of educational programs.

4

Format of assessment influences the content of education

The assessment format influences the content of education, therefore the improvement of measuring materials is based on the need to enable students to identify and develop their talents to the fullest extent. Therefore, tasks with the choice of one answer (a test part) have been excluded from the USE control measuring materials, and an oral part in foreign languages has been introduced into USE. To be successful at the USE, a modern graduate of a Russian school should not just know the subjects well, but also be able to work with information presented in various forms, solve various practical problems, give comprehensive answers, debate and argue his or her opinion.

5

Assessment facilitates further development (motivating assessment)

Results of the education quality assessment should be properly applied. The results should be used to facilitate the development of education, make specific managerial decisions to improve teaching of school subjects, provide organizational and methodological support for “weak” schools, and develop state-of-the-art teacher development programs.

Based on the results of the assessment procedures, it is impossible to compare the efficiency of the work of regions, schools, teachers. The indicator related to the USE results was excluded from the indicators of assessing the efficiency of regions' and municipalities' heads. The USE results must first of all be used for internal work and implementation of point projects on improving the quality of education.

For example, over the past 2 years, we have been observing a positive result of the project “I will pass USE” on improving the quality of education in several regions of Russia. The implementation of this project has significantly improved the quality of education in the North Caucasus Federal District. In 2016, the number of the USE participants in the North Caucasus Federal District, who did not score minimal points in the Russian language and mathematics to obtain a certificate of graduation, decreased three-fold as compared to 2015. In 2017 this number was still smaller. The number of the USE participants who did not pass the minimum thresholds in all subjects of choice, also decreased.

Unified State Examination (USE)

The USE is a key element of the Russian system of assessing the quality of education. Introduced in a regular mode in 2009, the USE is the main form of state final certification under educational programs of secondary general education, as well as the main form of admission tests to

universities of the Russian Federation. The mandatory examinations to obtain a certificate are the Russian language and mathematics; beginning from 2022, a foreign language is planned to be added to these subjects. Examinations for remaining subjects are taken by choice. Based on the USE results, the participants of the exam have an opportunity to enroll in any higher educational institution of Russia irrespective of their place of residence, without leaving the region for this purpose.

The USE is organized and conducted by the Federal Service for Supervision in the Sphere of Education and Science in conjunction with the executive authorities of constituent entities of the Russian Federation that exercise public administration in the field of education, as well as in foreign countries for school graduates at Russian embassies and military units. Annually, the USE is taken by about 700 thousand participants.

The examination campaign in 2013 revealed serious problems with the objectivity of the exam. In 2014-2016, to improve the mechanisms of the USE, as well as to strengthen the versatile control over the course of examinations, a number of measures were adopted that made it possible to ensure the objectivity of conducting the USE.

The scheme of delivery of examination materials to the examination points (EP) was changed, which helped to prevent “leakage” of control measuring materials (CMM) before they are handed to USE participants;

In order to prevent violations in the process of examinations, all EPs were equipped with video surveillance systems, stationary or manual metal detectors; use of communication means in EPs was prohibited.

The conduct of USE is 100% covered by video surveillance systems. The introduction of video surveillance made it possible to quickly identify

attempts of violations by participants and organizers of the USE. In 2017, video surveillance was conducted online in 93% of classrooms, which allowed online observers to remotely monitor the progress of examinations in any classroom via a designated portal.

The institution of public monitoring of the unified state examination was updated and strengthened. The USE is conducted under multi-level control. Monitoring of the examinations is carried out by Rosobrnadzor, federal experts, nationwide and local public observers, online observers.

In order to exclude the human factor and minimize the risks associated with delivery of exam materials, the technologies for printing control measurement materials in classrooms and scanning examination materials in the EPs after examinations are being actively implemented. In 2017, exams with the use of these technologies were held in more than 50% of EPs, and in 2018 it is planned to use them everywhere.

To date, there is complete confidence in the objectivity of the USE results. The real results of graduates made it possible to identify problems connected with the education quality in a number of school subjects in the of regions, municipalities, and also certain schools.

In parallel with the organization of the USE system, the content of the exams was also being improved. These changes were due to the need to improve the principles and concepts of the education system in the context of the development of a modern society and evolving of new technologies. All changes are introduced systematically; they are necessarily preceded by approbation and public discussions, involving education sector professionals.

Starting with the academic year 2014/15, a final essay (presentation) was introduced in graduating classes as an admission to the State Final

Certification. This increased students' interest in reading, motivated them to develop the ability to correctly formulate and express their own thoughts.

The two-level USE in mathematics was developed and introduced since 2015. The division of the USE in mathematics into basic and specialized levels makes it possible, on the one hand, to reduce the level of tension among the USE participants who do not plan to receive specialized education in technical and other specialties, and on the other hand, to qualitatively differentiate applicants who chose specialized mathematics in view of their mathematical preparation.

The introduction of the oral part in the Unified State Examination in 2015 made it possible to identify communicative skills of school leavers. Graduates decide themselves, whether to take the oral part of the exam, but this choice predefines whether they can get a maximum score for the exam. 100 points can be obtained only if the graduate takes both written and oral parts. Almost all participants of the Unified State Exam, who had the exam in foreign languages in 2017, took both a written and an oral examination.

Russia is one of the few countries that assesses the quality of general education using tasks with detailed answers that require expert examination and assessment (from 1 essay in the Unified State Exam in the Russian language to 9 developed answers on social studies) and is consistently reducing the test part of control measuring materials (CMM), which are used to check the USE participants' knowledge.

The arrangement of USE and CMM development takes into account participants with disabilities, including those with deep visual impairments, special CMMs printed in Braille are prepared for them. Participants with disabilities have special conditions for taking exams,

including help of assistants and use of special technical means. Examination points for them are organized not only in schools, but also in hospitals and at home.

The USE is a tool not only for assessing knowledge, but also for improving the quality of education. Based on the USE results, it is impossible to compare the efficiency of the work of schools and teachers, since all schools work under different conditions. These data should be used by institutions of professional development, since it is obvious that results of the assessing procedures largely depend on results of teachers' work.

Based on the analysis of the USE results, programs are being prepared for improving teachers' qualifications, development of regional and municipal education systems, methodological recommendations for each teacher in the country, identifying weak areas in mastering subjects and targeted work on the problems.

Basis State Examination (BSE)

The BSE as the main form of the state final attestation under the programs of basic general education (SFC-9) was introduced in a regular mode in 2014. The BSE is carried out by executive authorities of constituent entities of the Russian Federation, which exercise public administration in the sphere of education, on the basis of federal requirements and federal measuring materials. Annually SFC-9 is taken by about 1.2 million of 9th graders.

Based on the results of SFC-9, a school student can continue studying in high school and in institutions of secondary vocational education.

About 50% of 9th-graders go to high school and then pass the USE for further admission to universities, and the remaining 600,000 people receive secondary vocational education.

The basis for obtaining a certificate of basic general education is passing examination in four school subjects, two of which (Russian and mathematics) are mandatory, and the remaining two are independently chosen by participants of the basic state examination.

For several years, when passing the final certification at the end of 9 classes, students passed only two compulsory exams in the Russian language and mathematics. This led to the lack of demand for elective subjects and, as a consequence, to the decrease in the quality of education in non-compulsory subjects. So, for example, in 2015 only 0.8% of graduates chose to take an exam in history in the 9-th grade (previously it was 25%), 0.6% chose literature (previously - about 20%).

Therefore, from the 2016/2017 academic year, the practice of compulsory examination in two elective subjects was returned, which allowed to more fully reveal the level of mastering the educational standards of basic general education by graduates. This will strengthen the work on introduction of new organizational and economic mechanisms in the Russian education system, which will help to correct the educational trajectory of students, develop the work of educational organizations, and improve the quality of education in the country.

The objectivity level in conducting the BSE still does not reach the same indicator as the Unified State Examination. At present, we are facing the task to achieve the maximum objectivity in this procedure, so that these results can be used correctly.

National Study of Education Quality (NSEQ)



Currently, a number of activities are being conducted at all levels of education aimed at assessing the processes taking place in the Russian education system. The aim of these activities is the development of a balanced system of procedures for assessing the quality of education, the development of mechanisms and tools for assessing educational outcomes and taking into account the impact of various factors on the performance of educational organizations.

In 2014, at the initiative of the Federal Education and Science Supervision Agency, the National Study of Education Quality (NSEQ) - the All-Russian program for assessing the quality of secondary education - was launched.

The NSEQ program provides for regular studies of the quality of education in specific subjects at specific levels of general education (in certain grades) at least twice a year. The format of NSEQ is comparable with the format of authoritative international studies of the quality of education (PISA, TIMSS, PIRLS).

Each study has its own goals and objectives, corresponding to the current trends in the development of the general education system, and involves the collection and analysis of a wide range of data on the status of regional and municipal education systems.

NSEQ is a sample study and is organized in such a way that the results allow to judge not only about the quality of preparation of the direct participants of the study, but also about the general level of knowledge of the subject among the students of relevant grades in regions with similar conditions and in Russia as a whole.

The study includes writing of diagnostic work by school students, as well as questioning of participants, their teachers and organizers; collection and analysis of a wide range of contextual data.

NSEQ activities involve schools from most regions of the country. Federal coordinators of the study select from 5 to 15 schools in each of the region by a specially developed methodology. About 50,000 school students take part in each study.

The results of the study are used to improve the pedagogical education, the work of regional institutions of professional development and, if necessary, to adjust educational programs. The NSEQ results are not envisaged for assessing the performance of teachers, schools, municipal and regional educational authorities.

Six NSEQs have been conducted to date, and five more studies are planned in 2017-2019.

NSEQs Calendar

Studies conducted:

Mathematics	5-th, 6-th and 7-th grades	October 2014
The Russian language, mathematics and the World Around Us	4th grade	April 2015
Informatics and ICT	8th and 9th grades	April 2016
History and Social Studies	6th and 8th grades	April 2016
Foreign languages (English, German and French)	5th and 8th grades	October 2016
Fundamentals of life safety	6th, 8th and 9th grades	April 2017

Studies planned:

**Chemistry and
Biology**

10th grade

October
2017

**Literature, world art
culture**

6th and 8th grades

April
2018

Geography

7th and 10th grades

October -
November
2018

Physical education

6th and 10th grades

April
2019

Mathematics

5-th, 7-th and 10-th
grades

October
2019

The NSEQ results made it possible to identify gaps in school students' knowledge and to conclude that special attention should be paid to the basic school. Also, the analysis of the NSEQ results revealed the need for additional methodological support of rural schools.

All-Russian Testing



The next important element of Unified System of Education Quality Assessment is the All-Russian testing.

The All-Russian testing works are test papers written by school students at the beginning of a school year and at the end of each grade. These works allows us to monitor the change in the level of students' knowledge in the dynamics before the start and after the end of a school year.

All-Russian Testing is the most massive assessing procedure in the Russian education system. In April-May 2017, about 3 million school students and nearly 40,000 schools participated in the All-Russian Testing.

The VRP organization provides for a unified schedule for the whole country, the use of tasks developed at the federal level in accordance with the Federal State Educational Standard, as well as the use of common assessment criteria.

The tasks in All-Russian Testing are developed by the best specialists, with due account for the Russian and world experience. The All-Russian Testing include tasks, checking elements of each subject, which are most relevant and important for general education of students. Tasks with a choice of an answer from ready options are not used.

In the course of the check, all main elements of students' preparation in certain subjects were assessed, which ensure that students can successfully continue their education and, to a certain extent, reflect their ability to fulfill social roles typical for their age, interact with other people in the modern society.

Each school enters its results in the federal information system for a centralized analysis of these data.

The All-Russian Testing is not a state final certification. It is conducted by schools independently. The testing works allows schools to carry out self-diagnostics, reveal gaps in students' knowledge for subsequent methodical work.

In addition, the All-Russian Testing allows monitoring the results of the introduction of the Federal State Educational Standards and facilitates the development of a unified educational space in Russia.

It is not recommended to give marks for performing All-Russian Testing. Based on the results of All-Russian Testing, no binding decisions are taken, which are important for determining the future fate or educational trajectory of a school student. These results do not have any impact on obtaining an education certificate and transfer to the next grade.

In the spring of 2017, students of the 4-th, 5-th, 10-th and 11-th grades took part in the All-Russian Testing. In the next academic year, the number of grades covered by the test works will increase, and the number of subjects in which they will be conducted, will expand.



International comparative studies of the quality of education

Russia has already gained quite a lot of experience in international comparative studies of the quality of education, conducted by the Organization for Economic Cooperation and Development (OECD) and the International Association for the Evaluation of Educational Achievement (IEA).

These studies allow identifying and comparing the changes occurring in education systems of different countries and evaluating the efficiency of strategic decisions in the field of education. Our country has been participating in these studies since 1995. This allows us to understand how competitive the Russian school is today.

The main international comparative studies of the quality of education, in which Russia participates:

PISA an international program for assessing educational achievements of 15-year-olds (Program for International Student Assessment) in the field of mathematical and natural-science literacy, as well as reading literacy. (OECD)

PIRLS an international study of the reading quality and understanding of the text (Progress in International Reading Literacy Study) by 4th graders. (IEA)

TIMSS an international monitoring study of the quality of mathematical and natural science education (Trends in Mathematics and Science Study) of 4-th, 8-th and 11-th graders. (IEA)

ICCS an international study of the quality of civic education. (International Civic and Citizenship Education Study) of 14-year-old school students. (IEA)

TALIS the International Teaching and Learning International Survey (OECD)

PIAAC an international study of the competencies of adult population (the Program for the International Assessment of Adult Competencies). (OECD)

ICILS the International Computer and Information Literacy Study (ICILS) of 14-year-olds (IEA)



Russia has traditionally demonstrated high results in the PIRLS and TIMSS studies. In the latest TIMSS study conducted in 2015, Russian school students demonstrated a high level of mathematical and natural-science education, significantly exceeding the world average. According to the results of the TIMSS survey, Russia ranks among the group of leaders, the Top 10 countries with the best results.

At the same time, for several years the PISA study, Russia has not been high enough in the ranking of the countries. However, the latest PISA study conducted in 2015 showed very good dynamics of the Russian school students' results.

The average results of 15-year-old Russian students in reading, mathematical and natural-science literacy improved in all three directions compared to 2012; a significant increase in the results of reading and mathematical literacy has been recorded. The average scores of Russian school students in all three areas of the study achieved average results for OECD countries and even exceeded them.

This resulted from a number of changes in the Russian school education which occurred in recent years: the introduction of the federal state educational standard, in which reading and information literacy occupy an important place, the increase in the proportion of practical-oriented tasks in the mathematics course. The results of the TIMSS of the 4-th graders also confirmed the positive effect of the introduction of the federal state educational standard of the primary school, which has shifted the emphasis from the formation of subject knowledge to the development of the ability of the younger school student to use this knowledge, the creation of interest in the subjects studied and development of personal qualities.

In May 2016, a study was also conducted based on the PISA standards for schools in Moscow. The results of the Moscow schools were at the level of the world leaders in the field of secondary education. They can be compared with the indicators of the best schools in Shanghai (China), Singapore, Hong Kong, Finland, Japan; the results of Moscow schools outstrip the indicators of schools in most countries, including European schools.

The results obtained confirm the high level of education provided by Moscow schools. Their experience will be replicated for schools from other regions of Russia.

Teacher competency study



Another area of work on the formation of a unified educational space has become the study of teaching personnel, which has complemented the study of the quality of students' education in Russian schools. The Federal Education and Science Supervision Agency implemented a number of projects aimed at developing an objective model for assessing the teachers' competencies.

In April-May 2015, together with the All-Russian Association of Teachers of History and Social Studies and the Russian Historical Society, an All-Russian study “Portrait of a Teacher of History” was conducted, during which about six thousand participants were interviewed. The purpose of the study was an expert analysis of the level of professional competence of teachers of history and social studies, taking into account the introduction of the concept of a new teaching package on national history.

In October 2015, a preliminary study of the competencies of teachers of the Russian language was conducted, in which about 1 thousand teachers took part. And in April-May 2016, the main stage of the study of the competences of teachers of mathematics (8,000 participants), the Russian language (8,000 participants) and literature (6,000 participants) took place.

Within the framework of the study, the teachers performed diagnostic work, which included three units: solving problems, solving methodological problems in a specific pedagogical situation, assessing the work and commenting on students’ mistakes.

Along with the tasks of the diagnostic work in the framework of the study, the teachers answered questions of the questionnaire, some of which were aimed at revealing psychological and pedagogical aspects of the teacher’s activity. Besides, the teachers’ results are examined depending on the contextual data - type of school, size of settlement, length of employment and age of the teacher, etc.

In each of the subjects, a significant proportion of teachers showed relatively low results in performing standard study tasks. We can also state a rather low level of teachers’ methodological competencies, inability to explain their actions and plan educational work in accordance with a specific task. Besides, the

study revealed an inadequate level of mastering the methods of an objective, standardized assessment of learning outcomes, which can prevent teachers from efficient performance of their work.

The new model of the competence level assessment for teachers of Russian language and mathematics will be tested in autumn 2017 in 13 regions of Russia. At least 300 schools and 4,000 teachers will participate in this experiment.

In the future, the assessment of the teachers' competencies should become one of the elements of the national system of professional growth of teachers, which is currently being developed by the Ministry of Education and Science of the Russian Federation on the instruction of the President. The results of the competence assessment will make it possible to build the system of targeted training for teachers, which will contribute to improving the quality of school education throughout the country.





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