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The Need for New Economic Relations in Education

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Abstract: The results of modernization of the national education system are analyzed through its quality is determined by the unified state examination in view of the limited cost of production resources and in the context of the need to form a new system of economic relations. The main objective of the research presented in this study, the definition of the priority trends in the results of the unified state examination in order to assess the effectiveness of the use of limited resources spent on the training of students in the education system.

Key words: Education, quality of education, unified state exam, economic relations, the universal electronic card

INTRODUCTION

Market modernization of the national economy is largely determined by the efficiency of public services, bearing a pronounced social character (Tatuyev and Sokhrokov, 2012). Thus in many areas, especially those related to education, all the more urgent issue of quality of services, leaving the level of national security as the strategic issues affecting the development of human capital.

METHODS

Key research methods was achieved the ratio of the unified state exam with the established norm, gives an idea of the quality of students' achievements as well as comparative, analytical and constructive generalization.

MAIN PART

Quality in the modern education system presented by set of the elements forming it is characterized by three levels (Saharans, 2010):

- Level of the expected result at which certain conditions of training are provided and is defined the planned education level: purposes and content of education, requirement to preparation level, educational standards
- The realized education level which is defined by parameters of the expected result and depends on various external factors: material support of educational process, qualification of teaching structure, learning ability of children, etc.
- The reached education level the level which pupils in the course of demonstration of the achievements for example, at examination or in labor practice can confirm

Thus, as a rule, carry to number of educational achievements (Kovaleva, 2011):

- Subject knowledge and abilities
- Application of subject knowledge in practice
- Interdisciplinary abilities
- Ability to work with information provided in various form
- Mastering modern information technologies
- Ability to cooperate and work in group
- Ability to study and self-improve
- Ability to solve problems

Thus, the assessment of quality of education and educational process is based on an assessment of the educational achievements reached by the specific individual or group of individuals. In turn the assessment of educational achievements assumes:

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- Obtaining information on a condition of educational achievements of pupils
- Identification of tendencies of change of a condition of educational achievements
- Identification of the factors having impact on the level of educational achievements

Obtaining information and its subsequent processing make demands to high objectivity of these total checks to systematization of the saved-up data, information support of the analysis and interpretation of the systematized data. The system of obtaining information in educational institutions is formed by different examinations, offsets, polls, examinations and so forth. The choice of a concrete form depends on the purpose, the contents and a problem of the carried-out assessment of the reached education level. However, each method has shortcomings the most typical of which are (Dyakova, 2011):

- Feature of teaching work
- Specifics of traditional forms of verification of data
- Dishonesty of pupils during check

According to a large number of experts in the field of an assessment of the reached education level, the greatest objectivity is represented by a form of testing (Verbitsky and Kreslavsky, 2012). So, testing represents one of the most technological forms of carrying out the automated control. By means of tests process of preliminary, current, thematic and total control of knowledge is effectively provided. Widely known example of a similar form of examination is the Unified State Examination (USE).

Unified state examination represents centrally the state exam in educational programs of the secondary general education which is carried out in averages of educational institution. At this unified state examination at the same time serves as both final school examination and entrance examination in higher education institution. At application of unified state examination in all territory of the country the same tasks and methods of an assessment of results are applied.

Estimates of level of the reached education in a technique of unified state examination are assumed indicators, correctly performed dough tasks received when transforming quantity by scaling as a basis. The ratio of the reached results with some established norm gives an idea of quality of educational achievements of the specific pupil. As the established norm of results requirements of the training program or the state educational standard, results other tested, aprioristic estimates of abilities of the examined are accepted. At this approach subjective results of other pupils as it occurs within traditional examinations have no the special impact on a role of an assessment examined since the total mark is put down depending on a percentage ratio of the fulfilled requirements and full volume of the requirements planned to assimilation. Drawn for everyone tested interest it is compared to some criteria formulated in the expert way or received on the basis of empirical data. By results of comparison on the basis of percent of the performed tasks the total point is exposed to the specific pupil.

The methodology of unified state examination is based on use of polytypic tasks not only on subject and logical structure, but also on complexity level. So, in the Control and Measuring Materials (CMM) for unified state examination simple tasks of category "A" with which the vast majority of the tested copes are offered in the beginning. Tasks of this level of complexity allows to separate with high degree of reliability those graduates who mastered a basic minimum of the training program (on the three) from those who doesn't know anything (two). The following level of complexity contains tasks of category "B". The statistics of the previous years allows to say that tasks of this category of complexity are sexecuted for 40-60% that allows to separate reliably that part of graduates who rather well mastered the training program (on the four) from that part who mastered only its basic minimum. The last level of complexity contains tasks of category "C". As a rule, tasks of this category are executed for 20-40% that allows to allocate rather precisely that part of graduates who mastered the training program at very high level (perfectly well) (Nikiforova, 2013). Thus, the additional objectivity of an assessment in unified state examination is reached as follows:

- Primary use of written examination-papers
- Similarity among themselves options of examination-papers structure, difficulty, parallelism on an arrangement of tasks
- Minimization of an expert assessment and use of system of uniform criteria for an assessment of various groups tested
- The identical standardized examination conditions for all graduates
- Use of system of an independent assessment, external in relation to an education system

Based on the above arguments, we make an objective assessment of the quality of education in Russia based on the results of the unified state examination (use) for 2013-2015. So, in 2015, participation in the state exams was

attended by about 725 thousand people. Of them to graduates of this year were up 89.7%. The remaining 10.3% were ceased. For example, in 2013 the share of graduates of the current year accounted for 86.1%. And in general, the number of students was higher 863 thousand people. Figure 1 illustrating the distribution of the total number of students in the subjects in 2013-2015. The chart shows that almost all the participants passed the Russian language and mathematics, compulsory subjects required for obtaining the certificate. The remaining items were given on a voluntary basis in any amount in accordance with the specialty (field of study) was planned to receive professional education. Among voluntary subjects the largest number of participants, more than half handed social science. Significantly fewer graduates chose physics, history and biology. Even less, English, computer science, literature and geography. Units passed German, French and Spanish. The structure of the distribution of the preference items among the participants in 2015, almost unchanged in relation to 2013 to 2014. From 725 thousand participants in 2015 not passed the exam of 1-1.5% while in 2014 not passed the exam by 0.7% while in 2013 by 0.8%.

Despite all the advantages, around the exam since its introduction, experimental at first and then widespread, sparked active debate. The main controversial issues was the objective assessment of knowledge and the possibility of vote rigging. As for the first time expressed the argument that according to the methodology of the exam, the probability of getting a high score more

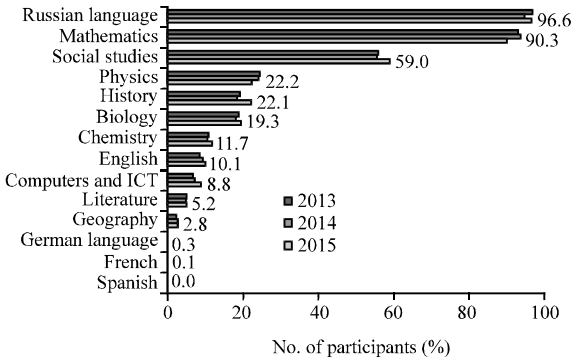

Fig. 1: The distribution of the total number of students by subject in % (figure calculated and compiled by the author based on data: infographics: results of exam 2014//official information portal of unified state examination. URL: http://ege.edu.ru/ru/main/news/index.php?id_4=19424; statistics CSE//official information portal of unified state examination. URL: http://ege.edu.ru/common/upload/docs/app3.xls

advanced graduate exceeds the probability of receiving the same low score. Similarly, we spoke about the likelihood of a low score poorly prepared graduates (Saharans, 2010). As regards the second point, the unified state examination in recent years was accompanied by a lot of high-profile cases. So, after a large-scale leak of test materials in July 2013 from his office was released by the deputy minister of education and science of the Russian Federation who oversaw the exam. However, 2014-2015 is in this respect an exception. The ministry of education there were no leaks instrumentation options before the exam. In addition, the integrity of the exam were provided with unprecedented measures of control points of the exam were equipped with detectors and video cameras.

Reinforced control measures on the one hand, led to a significant increase in the cost of organizing the exam. So, in 2013, his organization had spent 500 million rubles In 2014, the funding of the exam for all positions were held at the level of last year. In addition, additional costs were incurred on the installation of video cameras (600 million rubles) and the strengthening of control measures in the delivery of test materials in some regions (63 mln). Moreover, additional activities cost more money than all of our major expenses. The costs to conduct the exam in 2015, according to some estimates, amounted to about 1.5 billion rubles.

Another result of the strengthening of control measures resulted in a substantial reduction of the estimates. For example, Table 1 presents information allowing to assess the dynamics of change in the average test scores of the unified state examination in subjects in the period from 2013-2015. Table 1 presents values of average test scores by subject, obtained in 2013, 2014 and 2015 and calculated an index of income (the ratio of 2015 to the value in 2013 multiplied by 100%), expressed in %.

Table 1 shows that the average score increased only in Russian language. However, in other subjects the average score decreased significantly which directly impact the strategic perspectives of national

Table 1: Dynamics of change in the average test scores of the unified state examination in subjects in the period from 2013-2015*

The subjects	2013	2014	2015	The index of income (%)
Russian language	63.9	62.5	65.9	3.1
Literature	59.9	53.6	56.9	-5.0
Physics	54.6	45.4	51.2	-6.2
Geography	57.6	52.9	52.9	-8.2
Mathematics	49.6	46.4	45.4	-8.5
Biology	59.1	54.1	53.2	-10.0
English	73.0	62.8	64.8	-11.2
Social studies	60.1	55.4	53.3	-11.3
Computers and ICT	63.5	57.1	53.6	-15.6
History	55.9	45.3	46.7	-16.5
Chemistry	68.7	55.3	56.3	-18.0

*Table designed and compiled by the author based on data: infographics: results of exam 2014//official information portal of Unified state examination. URL: http://ege.edu.ru/ru/main/news/index.php?id_4=19424

security. Most revealing is the situation with chemistry where the average score decreased from 68.7-56.3 the result deteriorated by 18.0%. The result in math has deteriorated by 8.5% the average score decreased from 49.6-45.4. The result on social science decreased by 11.3% up to 60.1 53.3.

If we compare the results of 2014 and 2015, it may be noted that the results of 2015 was slightly higher results 2014. However, according to some experts, this improvement is nothing but "manipulation of statistics". So, improving results in Russian language and literature associated with the maximum manifestation of loyalty by relying on the background of the introduction of mandatory presidential writings and pulling back on resources that are needed to be spent on preparation for unified state examination on these subjects. The improvements in mathematics associated with the separation examination in this subject into two groups core and basic level of difficulty. As a result less prepared graduates could pass the basic level of difficulty and not to spoil your results the overall picture. The improvement of results in physics is associated with the reduction in the number of computational tasks, so the weight of the remaining jobs increased.

Against decrease in a GPA the extremely negative dynamics was undergone by a situation with decrease in quantity of 100 balnik participants of the unified state examination which got 100 points at examination in a subject. Information allowing to estimate dynamics of change of number of participants of the unified state examination which gained 100 points in subjects during the period from 2013 to 2014 is provided in Table 2. Values of shares of the participants who got 100 points in subjects are presented in the table for 2013 and 2014 and also the result gain index (the relation of value of 2014 to value of 2013 increased by 100%) expressed in % is calculated.

Table 2: Dynamics of change in the number of students who scored 100 points in subjects in the period from 2013 to 2014*

The subjects	2013	2014	The index of income (%)
Russian language	0.31	0.33	9.3
Literature	1.03	0.56	-45.8
French	0.32	0.15	-53.9
Physics	0.23	0.08	-65.0
Geography	0.93	0.27	-71.1
Biology	0.29	0.08	-72.3
History	0.30	0.07	-76.8
Chemistry	3.43	0.60	-82.6
Social studies	0.10	0.02	-85.4
Mathematics	0.07	0.01	-86.5
Computers and ICT	0.95	0.06	-93.2
English	0.78	0.02	-98.0
German language	0.14	0.00	-100.0
Spanish	0.00	0.00	-

Table designed and compiled by the author based on data: infographics: results of exam 2014//official information portal of unified state examination. URL: http://ege.edu.ru/ru/main/news/index.php?id_4=19424

Table 1 shows that some items do not become 100 balnikov (German). For other subjects the number of participants significantly dropped. So, in mathematics there is a reduction from 0.07-0.01% of the poor results on 86.5%. Social studies the deterioration of the result by 85.4% (from 0.1-0.02%). Physics the weakness on 65.0% (from 0.23-0.08%). History deterioration of result of a 76.8% (from 0.3-0.07%). In chemistry, the weakness in 82.6% (3.43-0.6%). The only improvement here was only on Russian language an increase of 9.3% from 0.31-0.33% 100 balnikov. The total number of participants who scored 100 points decreased from 9-3.5 million. In 2015, the number of 100 scored amounted 3922 people.

Meanwhile, even the dynamics does not reflect the whole picture because the general decrease in results was partially able to neutralize the artificial way by reducing the minimum number of points for compulsory subjects Russian language (from 36-24 points) and mathematics (from 24-20 points). This step helped to mitigate the negative results of the examination and in fact, it led to the legitimization of an unsatisfactory result. Thanks to this step, the number of those who do not pass required courses and will not receive the certificate of completion of general secondary education in 2014, decreased as mentioned above, up to 5 thousand people. However, the real figure could be much higher. So, according to some, without lowering the passing score, only the Russian language exam in this year can give about 30 thousand graduates. According to others, without reducing the scores in both subjects, no certificates this year could be about 20-25% of graduates, despite the fact that in General almost 4/5 of graduates, formally received threes or not qualified at all.

In addition, a fair exam illustrated the scale of one more problem differentiation in performance between different schools. Thus, Table 3 presents information

Table 3: Differentiation of the population of various settlements by average test score of the exam by subject in 2013 (%)*

The subjects	Type		The index of differentiation (%)
	Rural	Urban	
Spanish	39.0	69.3	77.6
German language	44.1	60.7	37.7
English	57.9	73.7	27.3
Computers and ICT	52.3	64.8	24.1
French	57.3	70.0	22.0
Physics	50.2	54.4	8.2
Russian language	59.8	64.5	7.9
Geography	54.6	58.3	6.7
Social studies	56.7	60.3	6.3
Chemistry	64.8	68.9	6.2
Mathematics	46.8	49.3	5.3
Biology	56.6	59.5	5.2
Literature	56.8	58.7	3.3
History	53.6	55.2	2.9
Total	54.4	58.5	7.5

*Table designed and compiled by the author based on data from: statistics CSE//official information portal of unified state examination. URL: http://ege.edu.ru/common/upload/docs/app7.xls

on the basis of which you can evaluate the population differentiation of different types of settlements according to the average test score of the exam by subjects in 2013. In particular, the table presents the average test scores of unified state examination in the subjects among the students receiving education in rural and urban schools. Then, on the basis of these data calculated the differentiation index (the ratio of the average subject grade for the participants from urban schools to the average subject grade for participants from rural schools, multiplied by 100%).

As the Table 3 shows the average for all subjects average score on the exam of the graduates from urban schools is 7.5% higher than the average score of graduates from rural schools. Thus, in all subjects this difference is observed in favor of graduates of city schools, i.e., in urban schools, as a rule, better prepare for the exam. In this case, for compulsory subjects differentiation is at levels: Math 5.3% in Russian 7.9%. Social studies 6.3%. The highest level of differentiation in foreign languages and computer science 22.0-77.6%.

In general, the results in 2013-2015 the exam more fully described the fundamental problem of the national education system low level of quality of its work. This fact was confirmed by the minister of education, the President and other competent person, denoting that the education system is waiting for modernization. Thus, upgrading itself again will be targeted in nature. So, as priority measures are planned to revise the program of teaching Russian language and requirements for instructor performance. Why, on the initiative of the Federal service for supervision in the sphere of education will establish a working group on improving the teaching of the Russian language which will focus on the professional development of teachers.

However, the effectiveness of the proposed activities was immediately questioned. In particular, there is a problem, according to which the widespread use of the mechanism of the exam to assess the quality of education led to a reorientation of secondary education with the imperatives of training "worthy members of modern society" to the imperatives of "cramming for the test". In addition, there is the problem of using the exam for assessment of quality of work of governors and various leaders in the education system. The entire responsibility for obtaining low ratings was in fact shifted to the teachers which resulted in conversations about the low level of qualification of the latter, the lack of young personnel, insufficient level of motivation.

In the same year, the evaluation criterion of the governors on the exam was cancelled. In addition, there was a ban on criticizing the teachers and schools coped with the exam with the lowest results, since these approaches seem to be totally senseless, in particular given the fact that the level of training in capital high schools much higher level of training in schools of rural areas. However, the planned measures, in conjunction with the attempt to improve the level of teachers' salaries is unlikely to lead to major changes, because they are not aimed at solving fundamental errors inherent in a national education system in recent years of reform. The majority of interventions directed towards the improvement of the mechanism of the exam which is in fact is not the only mechanism of quality control of the education system but the mechanism of distribution of budgetary funding. Even when talking about changing programs, professional development of teachers and attracting young professionals, still it is primarily about achieving better results in the future. However, almost no attention is paid to the problems of the education system as such in the realities of the new society knowledge society where the main element of productive capital becomes the man and his knowledge, learning ability and application of skills in practice. As shown by the exam results 2014 to 2015 and serious problems arose, the vast majority of graduates. Because 4/5 of the alumni (formally received threes or even decertified) have zero knowledge and are not trained in the skills of self-education. Therefore, the probability that these graduates will be able to learn anything serious after high school is extremely small. Therefore, 4/5 of these graduates will become the basis for development of knowledge society. In other words, 4/5 of all resources spent on pupils in the education system in fact have been wasted. This is a direct threat to national security.

In aggregate, the same analysis points to a number of key points highlighting the negative characteristics of the system of economic relations inherent in the modern system of education in Russia. The initial negative aspect is the differentiation in the access to education. Undoubtedly, the study of the essence of economic relations in the sphere of education, it was found that education has a character of mixed goods which a priori mediates the possibility of some tuition fees. Meanwhile, education as a mixed good, in terms of the knowledge economy has a strongly pronounced social significance, as access to education determines the social mobility of citizens by expanding the potential of obtaining higher profits. In addition, the external effect of education mediates the contemporary processes of socio-economic development of society as a whole. Therefore, in this respect, access to education, especially to higher should not be a significant impact of eliminating factors. However, in Russian reality, even within the declaration

of universal access to education, there is return that causes an objective change of priorities of modernization of the education system (Tatuev, 2012). Thus, it is necessary to emphasize that the wide spread of new organizational forms of education (Esengulova and Dvoinova, 2014).

In addition, from the point of view of aggregate expenditures and the value obtained in the form of income from skilled labor, it was determined the apparent decline in marginal utility of further increase of expenditure on education in the framework of the existing system of economic relations. Coupled with the fact that the more affluent segments of the population tend to paid education, these facts indirectly indicate low quality of knowledge produced in the traditional way. This is separately confirmed by a survey of the quality of education in the school as an important stage which lays the basis of the individual to further the reproduction of their human capital. So, the vast majority of today's graduates and future basis for the development of society is not capable and not bred to further education and skilled work.

It appears that the reason for this is the inertia of the traditional system of education, mediated by the predominant role of state non-marketable add-in society in education industry, being the backbone for a modern market economy. So, the role of the state in this matter is not only in solving the problems associated with the failure of the market mechanism in the system of economic relations concerning reproduction of mixed blessings. In addition, the state implements the principle of social justice, it is in fact, defines priority directions of functioning and development of the education sector as a holder of the majority of the funds that accompany economic relations in education and related fields.

Therefore, it is time to actively seek new forms of market relations mainly determining the prospects of development of the national education system adequate to the growing global demands. Organizational and technological feasibility of the processes of formation of new economic relations appeared with the beginning of the process of issuance of universal electronic cards of citizens.

The universal electronic map should be an effective business instrument, the identity of the citizen, the rights of the insured persons in system of compulsory insurance, other rights of a citizen to receive state and municipal services, including in education. Users of universal electronic cards become direct participants in the economic and fiscal and administrative relations. Through, the universal electronic system offers the possibility to organize the disposal of the budgets and extra-budgetary funds at various administrative levels and submit them for payment of educational services, including adding your own savings and financial resources of corporations.

Thus, this organizational, economic and financial basis offer the possibility of creating a new structure of economic relations related to the provision of educational services which will significantly increase the revenues of the education system is predominantly based on market principles taking into account the dynamics of supply and demand.

CONCLUSION

Based on the results of the research in the study shows that about 80% of graduates have very low knowledge and absolutely no trained in the skills of self-education. Therefore, the probability that these graduates will be able to effectively develop and operate in a permanent mode of learning throughout life as required by the future knowledge society is extremely small. This means that four-fifths of all the limited resources spent on the preparation of pupils in the education system, in fact were used very inefficiently.

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For the formation of a new system of economic and financial relations are encouraged to use the universal electronic card which includes the right of citizens to receive state and municipal services including in education. Users of universal electronic cards become direct participants in the economic and fiscal and administrative relations. Through the universal electronic system offers the possibility to organize the disposal of the budgets and extra-budgetary funds at various administrative levels and submit them for payment of educational services including adding your own savings and financial resources of corporations.

REFERENCES

Dyakova, L.A., 2011. Innovations in the assessment of personal achievements in the new standard of education. Pedagogical Educ. Sci., 9: 19-22.

Esengulova, H.P. and I.N. Dvoinova, 2014. Distance learning and information technologies in education. Perspec. Sci., 2: 78-80.

Kovaleva, G.S., 2011. Educational achievement of students in the quality assessment system of education. Managing Educ. Theory Prac., 1: 62-66.

Nikiforova, E.P., 2013. Unified state examination as an indicator of the quality of education. Theory Prac. Soc. Dev., 2: 96-98.

Saharans, E.V., 2010. EGE as a form of assessment of educational achievements of intellectual potential of the XXI century. Stages Knowl., 4: 106-112.

Tatuev, A.A., 2012. Transformation of priorities of modernization of the higher school in the transition to the knowledge society. Econ. Anal. Theory Prac., 8: 27-34.

Tatuyev, A.A. and T.K. Sokhrokov, 2012. The state services in system of modern economy. Terra Econ., 10: 19-22.

Verbitsky, A.A. and E.E. Kreslavsky, 2012. Testing in education, problems and prospects. Pedagogy, 8: 3-13.