Rapotsevich Evgeny A.

Candidate of Physical and Mathematical Sciences, Head of Chair of Informatics and Mathematics Department, Siberian Management Institute, Siberian Affiliate of Russian Presidential Academy of National Economy and Public Administration (Siberian Affiliate of RANEPA), Novosibirsk.

E-mail: udc@sapa.nsk.su

Kolyman Elena N.

Post-graduate student, Novosibirsk State Pedagogical University; Senior lecturer of Informatics and Mathematics Department, Siberian Affiliate of Russian Presidential Academy of National Economy and Public Administration (Siberian Affiliate of RANEPA), Novosibirsk.

E-mail: GG5586@yandex.ru

CONCERNING THE MATHEMATICAL QUALITY KNOWLEDGE OF MODERN UNIVERSITY ENTRANTS

Abstract. *The aim* of the article is to analyze the dynamics of Unified State Examination GPA on Mathematics in Novosibirsk Region, Russia over the last two years.

Methods. For diagnosing the Mathematics quality digestion of general education institution graduates, the authors apply the empirical material; correlation relationship between entrance test results and the results of Unified State Examination is assessed.

Results. The research findings include the main causes of low results in Mathematics; one of them is the absence of clear conceptual thinking. The authors give the analysis of residual assessment for school mathematical knowledge during the entrance test results of incoming first-year students (brunches of study: Public and Municipal Administration, Human Resource Management) of Siberian Management Institute, Siberian Affiliate of Russian Presidential Academy of National Economy and Public Administration (Siberian Affiliate of RANEPA). The conclusion is drawn that the result of Unified State Examination isn't an objective indicator of mathematical knowledge of the incoming first-year students.

Scientific novelty. The authors single out the key factors caused low mathematical knowledge quality of school graduates. Correction ways and concrete steps to be taken for improving students' assimilation of Bachelor's Programme Science Disciplines are described.

Practical significance. The authors note that the research outcomes can be used not only for improving Unified State Examination probity and objectivity of students' quality assessment but for increasing basic Mathematics education as well.

Keywords: residual knowledge, results of Unified State Examination, conceptual thinking, school Mathematics.

References

1. Vygotskij L. S. Myshlenie i rech' [Thought and Language]. 5-th edition. Moscow: Publishing House Labyrinth, 1999. 352 p. (In Russian)

2. Dalinger V. A. Edinyj gosudarstvennyj jekzamen po matematike: rezul'taty i problem. [Unified State Examination on Mathematics: results and problems]. *Fundamental'nye issledovanija.* [Fundamental Research]. 2008. № 5. P. 51–53. (In Russian)

3. Efimov V. N., Ryzhkov V. I. EGJe i sistema didakticheskogo kontrolja. [Unified State Examination and didactic control system]. *Eksperiment i innovacii v shkole.* [Experiment and Innovations at School]. 2010. № 2. P. 26–29. (In Russian)

4. Kadnevskij V. M., Polezhaev V. D. Sistemnye nedostatki EGJe. Kogda ih preodoleem? [System shortcomings of Unified State Examination. When Will We Overcome Them?]. *Narodnoe obrazovanie.* [National Education]. 2010. № 9. P. 40–49. (In Russian)

5. Kiselev S. G., Nurieva L. M. EGJe i analiz kachestva obuchenija matematike [Unified State Examination and teaching Mathematics quality analysis]. *Obrazovanie i nauka.*[Education and Science]. 2008. № 6. P. 11–24. (In Russian)

6. L'vova L. V. Analiz rezul'tatov edinogo gosudarstvennogo jekzamena v Altajskom krae. [The results analysis of the Unified State Examination in Altai Region]. *Vestnik Altajskoj gosudarstvennoj pedagogicheskoj akademii.* [Bulletin of the Altai State Pedagogical Academy]. 2008. № 8. P. 161–166. (In Russian)

7. Novosibirskij institut monitoringa i razvitija obrazovanija. [The Novosibirsk Institute of Monitoring and Development of Education]. Available at: http://nimro.ru/ (In Russian)

8. Oficial'nyj informacionnyj portal edinogo gosudarstvennogo jekzamena. [Official information portal of the unified state examination]. Available at: http://www.ege.edu.ru/ (In Russian)

9. Portal FGOS VPO. [FGOS VPO portal]. Available at: http://fgosvo.ru/ (In Russian)

10. O koncepcii dolgosrochnogo social'no-jekonomicheskogo razvitija RF na period do 2020 goda. Rasporjazhenie Pravitel'stva RF ot 17 nojabrja 2008 g. № 1662-r. [The Government Executive Order of the Russian Federation d.d. 17.11.2008 # 1662-p. On the Concept of Long-term Social and Economic Development of the Russian Federation for the Period till 2020]. Available at: www.economy.gov.ru. (In Russian)

11. Solov'eva A. N., Stepanjan I. K. Analiz podgotovki abiturientov po matematike dlja prodolzhenija obuchenija. [The Analysis of Mathematics school graduates preparation for training continuation]. *Srednee professional'noe obrazovanie.* [Secondary Professional Education]. 2008. № 3. P. 78–81. (In Russian)

12. Solodnikov V. V. Edinyj gosudarstvennyj jekzamen: opravdalis' li ozhidanija? [Unified State Examination: were expectations justified?]. *Monitoring obshhestvennogo mnenija: jekonomicheskie i social'nye peremeny.* [Monitoring of Public Opinion: Economic and Social Changes]. 2011. № 5 (105). P. 113–122. (In Russian)

13. Federal'nyj zakon ot 29.12.12 № 273-FZ «Ob obrazovanii v RF» [The Federal Law of the Russian Federation d.d. 29.12.12 No. 273-FZ "On Education in the Russian Federation"]. Available at: http: www.minobrnauki.rf (In Russian)

14. Jasjukova L. A. Zakonomernosti razvitija ponjatijnogo myshlenija i ego rol' v obuchenii. [Regularities of conceptual thinking development and its Rrole in education]. S.-Petersburg: IMATON, 2005. (In Russian)