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PISA TESTS AND THEIR IMPACT ON GEORGIAN EDUCATION SYSTEM

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The article discusses the PISA (Programme for International Student Assessment) tests and their impact on the Georgian Education System. It analyzes the deplorable results of Georgian 15-year-olds in PISA 2009 and investigates the reasons based on different reports. The article also discusses the reasons for the temporary suspension of the project on the Georgian side. Since certain participatory countries are dissatisfied with the attitudes of this program, the article also refers to the criticism of PISA. The conclusion is that PISA and other international tests contain considerably important information. If these data with a diagnostic feature are used for working out the education policy in an appropriate way, they can become the key instrument for obtaining favourable results in reforming the Education System. Therefore, PISA appears to be essential for Georgia too, as such assessment gives an opportunity to concentrate on the national core curriculum and content analysis. In order to estimate all the strengths and weaknesses of the Education System, it is quite reasonable to conduct such surveys in every country. The article concludes with recommendations for PISA 2015 as to how to use the reports for further progress.

Key words: international survey, education system, education reform, assessment, academic literacy, PISA

Introduction

The Programme for International Student Assessment (PISA) is a triennial international survey conducted by OECD (The Organization for Economic Co-operation and Development) since 2000 which aims to evaluate education systems worldwide. It tests the skills and knowledge of 15-year-

olds in schools. PISA assesses the knowledge and skills of the students at the end of their compulsory education. The test assesses reading, mathematical and scientific literacy not only in connection with school curriculum, but in terms of essential knowledge and skills being necessary in adult life as well.

Georgia joined PISA in 2009. The results of the first assessment in that year revealed the low level of knowledge among 15-year-olds. Georgian students got lower score than the average for all OECD participating countries. The government of Georgia did not even try to analyze the factors that led to this disapproving result and made the decision to suspend the participation.

So far, only the reports and results of PISA 2009 were published in Georgia, and no kind of critical analysis of the reasons that had led to such unsatisfactory performance on the 2009 assessment was provided.

The paper's principal research objectives are:

- To discuss and analyze the results of PISA 2009.
- To investigate the reasons of the deplorable results of PISA 2009.
- To refer to the criticism of the PISA tests.
- To determine the importance of participating in PISA further in the future.
- To discuss how to use the analysis for reforming the Education System.

The aim of this paper is to contribute to those organizations and people who simply see the importance of participating in International Student Assessments (PISA, PIRLS, TIMSS, TEDS-M). Mostly the ones who are interested in the analysis of the results of PISA 2009, or want to investigate the reasons of the suspension of the participation in PISA tests, might profit from it as well. Above all, the paper can be used as the support for further reforms in the Georgian Education System.

These issues may be particularly important for motivating the present authorities of Georgia (unlike the former ones) to work out the favourable attitude towards the PISA 2015 tests and to initiate effective education policy reforms that will cover school curricula, school syllabi, teacher training, etc. This kind of attitude will lead the country to appear on the list of the most successful reformers of the Education System.

The remainder of the article is structured as follows. First, the PISA survey is described and its importance is defined. This part also covers the results and analysis of PISA 2009 Plus. Next, the recent and planned reforms of Georgian Education System are discussed. It is then followed by the findings of the study. The article concludes with the recommendations for future reformers of the Georgian Education System.

PISA – general description

The Programme for international Student Assessment (PISA) was created to evaluate education systems worldwide by testing the skills and knowledge of 15-year-old students. Students representing more than 70 economies have already participated in the assessment. PISA focuses on young people's ability to use their knowledge and skills while they come across real-life challenges.

The unique features of PISA are to highlight differences in performance patterns and identify features common to high performing students, schools and education systems. The innovative concept of "literacy" is students' aptitude to apply knowledge and skills in key subject areas and to analyse, reason and communicate effectively as they position, interpret and solve problems in different situations. In other words, PISA assesses whether students can use the knowledge gathered in schools in real life situations beyond the lessons. The regularity of PISA tests enables countries to monitor the progress. Through the breadth of geographical coverage and collaborative nature, PISA encompasses the 34 OECD member countries and 41 partner countries and economies.

PISA in Georgia

Georgia joined PISA as a partner country in 2009¹; however, the results were released a year after. The tests were administered by the National Assessment and Examination Centre.² By this time Georgia had already participated in other International Assessments, such as, PIRLS (assessing reading skills on the primary level), TIMSS (assessing the knowledge of mathematics and science), TEDS-H (assessing teachers).

In PISA 2009+ Georgia took the 67th place among 74 countries. The results were deplorable and at the same time shocking for the authorities, who awaited far better results after having passed lots of reforms in the Education System.

Attainments in Reading – the 15-year-olds of Georgia attained a poor score of 374 on the reading literacy scale. 38% of students are estimated to have a proficiency in reading literacy, i.e. they possess the baseline level needed to participate effectively and productively in life. Hence, the major-

¹ UNICEF, PISA – the Analysis of Georgian Data, 2013.

² NAEC was officially established in 2002, July 5, by the Ministry of Education of Georgia as a legal entity of public character.

ity of students perform below the baseline level of proficiency in reading.³ All ten participants in PISA 2009+ had populations with a mean overall reading ability that was significantly lower than the OECD average of 493 (Fig. 1).

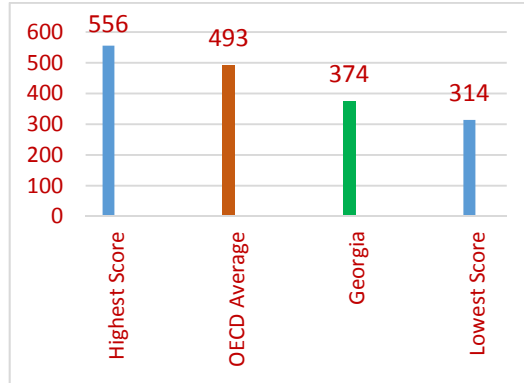


Fig. 1. Overall Reading Literacy Scale

Attainments in Mathematics – Neither the score of the mathematical literacy was promising – 379 that is below the average attained in all OECD countries. 31% of students being proficient in mathematics at least to the baseline level at which they begin to demonstrate the kind of skills that enable them to use mathematics in ways considered fundamental for their future development (Fig. 2).

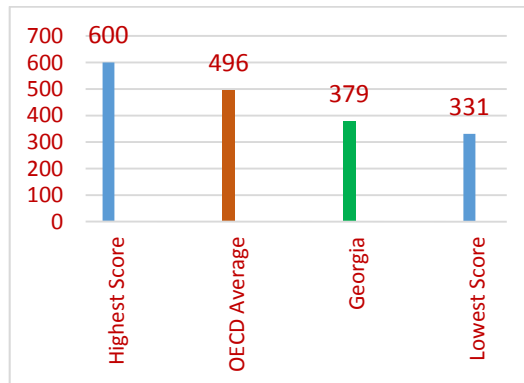


Fig. 2. Overall Mathematical Literacy Scale

³ M. Walker, *PISA 2009 PLUS Results, Performance of 15-year-olds in reading, mathematics and science for 10 additional participants*, Australian Council for Educational Research (ACER); 2011. pg xii.

Attainments in Science -On the scientific literacy scale the 15-year-olds of Georgia were estimated to 373 – quite an unfavourable score. 34% of students are proficient in science at least to the baseline level at which they begin to demonstrate the science competencies that will enable them to participate actively in life situations related to science and technology (Fig. 3).

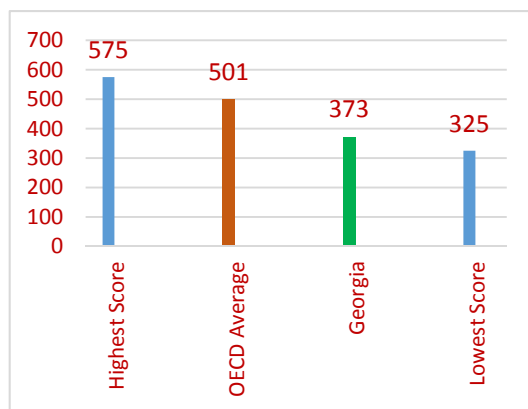


Fig. 3. Overall Scientific Literacy Scale

OECD releases the following information on Georgia in PISA 2009+ report.⁴ Georgia showed the lowest result among all the countries of Commonwealth of Independent States (hereinafter CIS). Only **38%** of Georgian schoolchildren have the basic or higher level in reading literacy that is compulsory for efficient and productive living. In maths literacy, only **31.2%** of students have the same level that can be useful for future development. On the other hand, **34%** of pupils satisfy the basic level in science literacy in order to reveal necessary scientific competences in real-life challenges. No matter which assessment system can measure the literacy of Georgian schoolchildren (PISA, TIMMS or PIRLS), Georgia is among the low-scorers thereby indicating the weaknesses of Education System. Girls show better reading literacy and excel the boys with 61 points. The same was with science literacy. However, both of them showed almost the same results in maths literacy.

According to the types of schools that were used for PISA assessment, only **5%** of them were private. When comparing the results of private and public schools, great difference was discovered between them. Private schools showed better results rather than public ones. For instance, the aver-

⁴ UNICEF, PISA – the Analysis of Georgian Data, 2013, p. 12-34.

age point in reading for private school students is 435, while for public school students it is 371.

The level of academic literacy was also defined by the school locations. The bigger the population of the location the better the results are. Consequently, the results in bigger cities are much more better than in villages.

The students, whose first language is not Georgian, fall behind their peers in all of the three components of Reading, Mathematics and Science. Besides, ethnic minorities living on the territory of Georgia have a serious problem with the Georgian Language, i.e. they have a very low level of the Georgian Language Literacy.

Learning resources, as usual, significantly influence the students' academic literacy. The lack of textbooks is one of the most important reasons for low scores.

The report also contained the information about the qualification of teachers. The schools where the academic process was not relevant was due to the lack of qualified teachers.

Different surveys prove that attending pre-schools has an important influence on academic literacy later on in educational development. The students who had attended pre-school for at least 1 year show better results, with 42 points on average.⁵

For making better Educational Policy PISA authorities suggest the following recommendations:

1. Attending Pre-school: the period that preschool children spend at pre-school institutions should be prolonged. According to the results, children who spend at least one year at preschool learn better at school. The lack of preparation for schools influences pupils' results, especially the children from ethnic and linguistic minority communities. It can help to cope with the inequality in the Education.

2. Official languages: Pre-school education should be provided in different languages in order to alleviate learning into Georgian.

3. School autonomy: Schoolchildren reveal better literacy in those countries where the schools are distinguished with high level of autonomy. Thus, in order to improve the quality of Education it is very important to give schools more autonomy and to decentralise the system.

4. Complete learning period: Absences and learning period appear to be a serious problem for Georgia. Schoolchildren do not have enough time to acquire those elementary skills defined by PISA. Consequently, it is neces-

⁵ Ibidem.

sary to work out the strategy to increase the presences and motivation. It would be advisable to monitor the existing factors that cause the absences.

5. It is essential to spend more time on teaching languages on the primary as well as on the secondary level: CIS countries and Georgia seem to spend more time on sciences in spite of the fact that it damages the linguistic abilities of schoolchildren. If we take into account the difficulty of the Georgian Language and the fact that the significant part of the population does not speak Georgian at home, it is necessary to dedicate more time to language learning and reading, especially at primary level.

6. Monitoring the teaching process in Primary Classes: Education at primary level is crucial for general quality of the education of a child and the monitoring should be done by using the mechanisms that can assess reading and math literacy.

7. Teacher status: Georgia has problems connected with teacher status that forces the teachers to apply other schools (private ones) or give private tutoring. Therefore, Teacher Status needs reconsidering.

8. Changing the policy of Class size: the correlation of pupils and teachers is very low at secondary level. It is crucial for defining the amount of a teacher's salary. Class size should not influence teachers' salary.

9. Increasing the Education budget and changing its structure: Throughout the world, Georgia has one of the lowest indicators according to the expenditures spent on Education and is quite far from the International standard. By increasing class sizes the government can save financial resources that can be used for increasing teacher salaries, or better resources e.g. textbooks, teacher trainings or school infrastructure.

10. Supporting the development of private education: In contrast with CIS countries, the sector of private education is less developed in Georgia, despite the fact that the teaching quality at private schools is better than at public schools. Together with providing the quality of public education, it is also crucial to develop private schools.

11. Developing technical and professional education programmes: the unemployment of the youngsters of 15-24 is quite high, owing to the fact that technical and professional education programmes are not provided. In order to satisfy market requirements, to broaden and strengthen the learning abilities of the youth it is essential to develop technical and professional training programmes.

12. School resources/textbooks: it is essential to provide every school-child with necessary school textbooks. Besides, it is important to adapt these books according to the pupils' necessities (e.g. the language of a pupil)

13. **Infrastructure and School Environment:** It is important to conduct the maintenance at schools damaged during 2008 conflict and to equip these schools in order to provide the schoolchildren with relevant learning materials (labs, libraries).

14. **Critical Thinking:** in spite of the fact that, in Georgia very little information is available about the Curriculum, the bad results can be reasoned by the existence of the requirements of teaching programmes. In general, CIS countries pay very little attention to critical thinking in teaching curricula and materials. Teachers should be trained how to motivate and encourage critical thinking among schoolchildren.

15. **The development of Information and Communication Technologies in Education:** Information and Communication technologies should be developed in order to support children's learning experience. It can help to provide remote rural schools with standard education.

This is what Georgian side brings as arguments for showing low scores at PISA 2009.⁶

- The GDP of Georgia per capita is 4 319 USD, and it is twice less than the average indicator for CIS countries. As Cause and Effect, the GDP is positively correlated with test results due to the fact that the economic state of the country influences the investments in Education. Consequently, it can influence the academic literacy and abilities of schoolchildren. Furthermore, during the surveys (2005-2009) the Georgian government spent only 8.2% of the budget on Education. As compared with international indicator, the amount is far less than the average amount. Due to the War of 2008, most money was spent on Military, but according to the report, this fact did not influence the expenditures aimed at Education.

- One more reason for these low points was multilingualism, as it appears to be slightly higher than in other CIS countries.

- The number of Internet users is very low. (10.4%)

- Besides, it is impossible to divide schoolchildren according to their level of abilities and skills. This argument reasons the disapproving results in the tests.

- In contrast with CIS countries, Georgian schools have greater autonomy; accordingly, the authorities are less responsible for hiring the teaching staff and selecting school textbooks.

In 2009, Georgia appeared on the top-list of "unsuccessful" countries and the authorities made the decision to suspend the participation for certain

⁶ Ibidem.

period of time. Due to this fact, the report of 2009 was delayed (It was published in 2011) and Georgia left the project for 2012. PISA 2009+ results caused variety of opinions among Georgian Policy makers and critics. Since Georgia appeared on the top-list of “unsuccessful” countries, the authorities made the decision to suspend the participation in all International Surveys. They were unambiguously sceptic and discredited the results. The former Minister of Education Dimitri Shashkin was quite critical in his interview concerning the PISA 2009+ results.⁷ On the other hand, the Minister was criticized seriously for his subjective comments and for the suspension of the project.

The affiliated fellow of CSS (Centre for Social Sciences) Ia Kutaladze released the report *The Role of International Surveys in the Reform of Education System*.⁸ She shows her dissatisfaction with unfavourable attitude of the Former Education Authorities towards the International Surveys. “Sadly, state importance of PISA and other international educational surveys is not recognized in our country. For this reason, after releasing PISA 2009+ results, where Georgia showed discouraging results, instead of planning respective strategic steps, the country refused to take part in international surveys. Consequently, PISA 2009+ national report has not been elaborated, which was one of the compulsory tasks for participating countries. Despite Georgia's discouraging results, we are optimistic, since many countries changed their strategies, based on survey results and succeeded in improving their education system. And above all, it is important to make policy makers understand the role of surveys and scientific studies in reforming education system.”⁹

The reforms being implemented in order to improve the PISA results

In 2012, there were changes in Georgian government. New authorities implemented new things for the further development of the country and they put strong focus on Education in their action plan¹⁰. New government

⁷ Interview with former Minister of Education and science Dimitri Shashkin, *Georgian Education System will not finance International Surveys with low quality*, 2011, Dec 29.

⁸ I. Kutaladze, *The Role of International Surveys in the Reform of Education System*, Caucasus Social Science Review, 2013, 1, 1.

⁹ *Ibidem*, p. 31.

¹⁰ The Government of Georgia; *The Action Plan, The Basic Data and Directions of the Country for the years of 2012-2015*, Tbilisi 2012, p. 15.

strongly believes that without better education it is impossible to create honourable and well-paid work places. The task of the Georgian authorities is to enable the population to receive education that can be relevant to the best world standards in order to make them globally competitive.

One of the most important tasks of the new government became the improving of the quality of teaching at schools, to create such school system each part of which (resource centre, school management, teachers, etc.) will have motivation to focus on the improving of the teaching quality and to make the result-oriented learning process.

Within the bounds of the programme, the Government of Georgia set final school exams that are oriented to reveal the efficiency of schools. The teacher certification process has been renewed and the salaries have been increased. School financing system has been changed in order to motivate directors to optimise school expenditures and attract the best teachers. The national curriculum has been renewed and the abitur programme has been created for school leavers. Henceforth, schoolchildren learn English from the 1st form and Russian from the 5th. Free netbooks are provided for all first class pupils of public schools free of charge. The best acknowledgement of the programme is creating school libraries that provide schoolchildren with second-hand but free school textbooks.

The position of the New Educational Authorities is different from their predecessors in terms of the International Surveys, since Georgia is again participating in PISA 2015.

Criticism

In spite of having quite a lot of benefits, International surveys do not always have positive feedback. Especially, when the results of the tests appear to be quite unfavourable for the participatory countries. PISA tests have been a subject of constant dispute since the first results that OECD released. To some extent, this criticism sounds quite reasonable. There are, of course, some deficiencies that the PISA creators could not take into consideration. One issue is connected with the number of years between the tests. Martin Stephen¹¹ in *"Poor academic standards and an even poorer test"* states "the PISA results should realise that a minimum of five years is needed for any educational reform to work, and 10 years is nearer the reality."¹² Furthermore, he

¹¹ George Martin Stephen, PhD, the former High Master of St Paul's School in London and is an author. He is described as "one of Britain's highest profile heads".

¹² G.M. Steven, *Poor academic standards and an even poorer test*, Telegraph, 2013, Dec 2, p. 2.

maintains that these results have unsound statistical base and the way of administering the methodology. "In my opinion, these tables are based on unsound methodology, from their statistical base to the way they are administered. And I am not alone in having doubts. During my recent yearlong research project into how the world educates its most able children, several representatives from one of the high-scoring countries in the league confessed that they taught to the test in order to achieve a good score." He even criticises its adaptation to local curricula and reasons his argument by the fact that there "are reports of children in the UK asking why the test had questions in it that they had not studied."¹³

The thing is that, Stephen insists there is no necessity of conducting such tests just in order to prove that there are problems in schools. "The fact is, we don't need PISA to tell us that we have real problems in some of our schools as well as in the attitudes of some of our children, and I see no sign that Mr Gove¹⁴ has done anything other than use the results as part of his diagnosis of what is wrong with the patient."¹⁵

The Economist also commented on PISA results in 2013. As it can be observed, PISA became a great issue of political debates and disputes. "PARENTS pore over them. Teachers protest about them. Politicians preen when they are positive— and blame their predecessors if they are not. International league tables have acquired a central role in debates about education policy."¹⁶

The Guardian was also involved in publishing the articles related to PISA and its criticism. Mona Chalabi¹⁷ maintains that the way the results are interpreted and analysed is not clear unlike the methodology used for collecting them. In other words, it lacks the statistical transparency. Chalabi also states that "From the outset, PISA has been met with scepticism, criticism and even outrage, most of which has stemmed from the claim that the study's findings are arbitrary. One such voice was Dr Svein Sjøberg of the University of Oslo, who claimed that a small change in question choice or weightings could result in a big change in a country's overall rankings."¹⁸

¹³ Ibidem.

¹⁴ Michael Andrew Gove is a British Conservative Party politician and the Member of Parliament for Surrey Heath. He is also an author and a former journalist for The Times newspaper.

¹⁵ G.M. Steven, *Poor academic standards*, p. 3.

¹⁶ G. Blease, *Testing Education, Pisa Envy*, The Economist, 2013, Jan 19, p. 1.

¹⁷ Mona Chalabi is a data journalist at [FiveThirtyEight](#). She previously worked at the Guardian, the Bank of England, the Economist Intelligence Unit, Transparency International and the International Organisation for Migration

¹⁸ M. Chalabi, *The PISA Methodology - Do its Education Claims Stack up?* The Guardian, 2013, Dec 3, p. 2.

According to Mark Schneider¹⁹ PISA is a risky investment for states. He found out some contradictory findings in the PISA 2009 report. "PISA itself admits that it cannot reliably identify which parts of the education pipeline are working well and which need improvement."²⁰

Gerald Bracey²¹ (Educational Leadership, 2009) brings even more arguments while criticising the PISA tests. "One problem is the fact that PISA is administered only to 15-year olds. Because different nations start formal schooling at different ages and have different policies about students repeating a grade, such a limited snapshot can hardly tell us much about a nation's overall success in educating students. Another problem is the design of the test items. Because the test purportedly measures students' ability to incorporate information that they might not have learned in school, PISA's design would seem to bias it toward affluent students whose homes and families have more resources. and that the translations of at least one PISA item word for word from English to Norwegian rendered it nonsensical. He (Svein Sjøberg²²) is quite sceptical, as am I, that questions can be rendered free of cultural bias and translated into the many languages of PISA countries and still be the "same" questions. And some of the passages for science and math questions are so long and discursive that they obviously measure reading skills as well.²³

The dissatisfaction with the PISA methodology grew in the recent years and on 5th May 2014, nearly 100 educators from around the world signed a letter addressed to Andreas Schleicher²⁴ with warning that PISA testing was killing the joy of learning. Here is the excerpt from the letter. "We assume that OECD's PISA experts are motivated by a sincere desire to improve education. But we fail to understand how your organization has become the global arbiter of the means and ends of education around the world. OECD's narrow focus on standardized testing risks turning learning into drudgery and killing the joy of learning. As PISA has led many gov-

¹⁹ Mark Schneider - a former commissioner of the U.S. Department of Education's National Center for Education Statistics

²⁰ M. Schneider, *The International PISA Test - A Risky Investment for States*, Education Next, Fall 2009, p. 74.

²¹ Gerald Watkins Bracey was an American education policy researcher. He is best known for the annual "Bracey Report" in which he analyzed current trends in education, often in opposition to prevailing educational policies of the day.

²² Svein Sjøberg - Professor, Science Education, ILS, University of Oslo.

²³ G. Bracey, *The Big Tests: What Ends Do They Serve?* Educational Leadership, Nov 2009, 67, 3, p. 2.

²⁴ Andreas Schleicher is a German statistician and researcher in the field of education. He is the Division Head and coordinator of the OECD Programme for International Student Assessment and the OECD Indicators of Education Systems programme.

ernments into an international competition for higher test scores, OECD has assumed the power to shape education policy around the world, with no debate about the necessity or limitations of OECD's goals. We are deeply concerned that measuring a great diversity of educational traditions and cultures using a single, narrow, biased yardstick could, in the end, do irreparable harm to our schools and our students."²⁵

Just before OECD takes actions to satisfy the demands of the signers of this open letter, Georgia is anticipating the results of PISA 2015 – the consequence of the recent and at the same time constant reforms in Georgian Education System.

Conclusion

Firstly, it should be defined why PISA appears to be essential for Georgia. In order to investigate and analyse the consequences of compulsory education in Georgia, i.e. how properly the compulsory level of general education provides the schoolchildren (15-year-olds) with the knowledge, skills and attitudes necessary for the successful functioning in real-life, the Educational Authorities need the research analysis of certain surveys or assessments conducted on the national or international level. Such assessments give the opportunity to concentrate on the national core curriculum and content analysis. On the other hand, international research considerably increases the knowledge of various systems. The things that are invisible for the inner eye, in this case for Georgians, can be clearly visible for the outer one – foreign observers.

In addition, it becomes possible to compare the accomplishments of different countries and to calculate the formulae of the success. However, the aims and objectives that can be successful in certain countries might appear to be quite unpromising for others. Overall, to estimate all the strengths and weaknesses of Education Systems it is quite reasonable to conduct such surveys in every country.

PISA and other International tests contain considerably important information. If these data with a diagnostic feature are used for working out the education policy in an appropriate way, they can become the key instrument for gaining the favourable results in reforming the Education System.

²⁵ Heinz Dieter Meyer and Katie Zahedi, and signatories: An Open Letter: To Andreas Schleicher, OECD, Paris.05.05. 2014 <http://oecdписаletter.org/>

In conclusion, these are the recommendations for the coming results of PISA 2015:

- To work on solving each problem that caused the previous unfavourable results.

- To compare the Georgian and OECD reports.

- To provide critical Cause and Effect analysis.

- To concentrate on outcomes rather than on reasons or arguments in case of mean results.

- To use PISA 2015 for further progressing.

Finally, PISA 2015 should not be primary means of accountability or evaluation. If Georgia wants to improve its Education System, it should keep pace with the international development by eradicating outdated remnants of the System and by implementing new and progressive ideas.

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