School Performance Feedback Report

IMPROVING EDUCATIONAL EFFECTIVENESS OF PRIMARY SCHOOLS (IEEPS)

Individual school performance feedback report on student achievement and value added

IEEPS
Improving educational effectiveness of primary schools

Lifelong Learning Programme

Belgrade, 2017.

Report on participation in the Comenius Study

IMPROVING EDUCATIONAL EFFECTIVENESS OF PRIMARY SCHOOLS

Individual feedback on pupil achievement and school`s value added

TEMPLATE

SCHOOL NAME

SCHOOL ADDRESS

During the school year 2014/2015, your school participated in the research conducted within the Comenius project "Improving educational effectiveness in primary schools" (IEEPS) as one of 125 primary schools included in the nationally representative sample.

This project is granted by the European Lifelong Learning Programme (LLP), subprogramme Comenius - Comenius Multilateral Projects. The Education, Audiovisual and Culture Executive Agency (EACEA) has registered the project as 538992-LLP-1-2013-1-RS-COMENIUS-CMP. It is implemented from December 1st, 2013 to May 30th, 2017. It is the first Comenius project coordinated by an institution from Serbia. The project is realized by the Faculty of Education (Univeristy of Kragujevac, Jagodina, Serbia), KU Leuven University (Leuven, Belgium), University of Cyprus (Nicosia, Cyprus), the Insitute for Educational Research (Belgrade, Serbia), National Examinations Centre (Ljubljana, Slovenia), primary School "Jelena Ćetković"(Belgrade, Serbia) and C' Makedonitissa's Primary School (Nikosia, Cyprus).

One of important outputs of this project is this comprehensive individual school report that could be used as tools in the process of improving of your pupils' learning gains, or as a support in planning your future school practices.

We would like to thank you once again for your cooperation in the realization of this research. The studies that map factors of pupils` achievements are an extremely important source of information for the process of improving school practices and the educational system as a whole.

The realization of the Comenius IEEPS study and the creation of this report included Dr. Jelena Teodorović, Dr. Vladeta Milin, MA Ivana Jakšić, Dr. Milja Vujačić, Dr. Ivana Đerić, Dr. Bojana Bodroža i MA. Dejan Stanković, with help from cooperatives from partner institutions engaged in the project, first of all Dr. Jan Van Damme, Jorrit Behets, Dr. Beatrijs de Freine, Dr. Leonidas Kyriakides, Dr. Charalambos Charalambous i Dr. Gašper Cankar.

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1. INTRODUCTION

1.1. About the Comenius IEEPS study

Pupils` progress in achieving higher levels of knowledge and education is one of the strategic aims of Europe 2020 and ET 2020. Although it is necessary to improve pupil achievements, there is a whole set of preconditions for the realization of this aim. As a particularly important presumption, schools need to be informed about some basic questions such as: 1) how school contributes pupil achievements – aside from other factors that influence this achievement (e.g. the socioeconomic status of a pupil`s family), 2) what educational and organizational practices (e.g. exercising tasks in class or teacher cooperation) are effective, and which are ineffective in raising pupil achievement levels and 3) how schools can additionally improve their most effective practices.

Taking these, but also other key problems, into consideration, the project *Improving educational effectiveness of primary schools* sets four basic aims:

1. Determining how school and teaching influence the pupil achievements in mathematics and sciences, considering the diversity of pupil population regarding pupils individual characteristics;
2. Delivering individual feedbacks to schools about pupils achievements and schools value added;
3. Creating a report about factors of quality teaching, designed to help teachers improve their teaching, based on the findings of this study;
4. Designing and implementing of professional development training programs for teachers based on the results of this research and the recommendations for the development of quality teaching.

Additional information about the Comenius IEEPS project *Improving educational effectiveness of primary schools* is available at: http://ieeps.edu.rs/sr/.

The first step in realization of these aims was conducting the research in which your school participated. In order to determine how school and teaching affect achievement independent from different pupil characteristics, the data about various school organizational and teaching factors and a wide set of individual pupil characteristics were collected. The schools` organizational data were provided by teachers, while the teaching data were provided by pupils. The data about individual pupil characteristics were provided by both pupils and their parents. The analysis of these factors` influence considered the previous achievement

data as an important factor of the actual achievement, therefore it included the results of the TIMSS study in which these pupils participated in 2011. The results from practice exam and final exam the pupils took in 2015 were used as a measure of the actual pupil achievement.

The analysis of this abundant data enabled us to realize the first aim of the project – identifying factors that influence the achievement of primary school pupils in Serbia.

The findings of the same analyses indicate to what extent the pupil achievements can be assigned to individual pupil characteristics, and to what extent they are caused by the differences between schools the pupils are attending. On the basis of these data, for each school from the sample a unique profile was designed, which shows whether pupils achieve higher or lower levels of achievement in particular subjects from what would be expected on the basis of their individual characteristics; that is, an value added for each school is determined within particular school subjects. These and other relevant data about your school resulting from the Comenius IEEPS study are presented in the report you are reading, which is intended for your school exclusively. This realizes the second aim of the project.

One of the outcomes of this project is a handbook describing the findings about the most effective teaching practices. This handbook is printed and distributed to schools that participated in the research, but is intended for other Serbian schools and can be downloaded in digital format. This realizes the third aim of the project.

The fourth aim of the project was also realized during the previous school year by holding a nine-day long cycle of training programs for professional development based on the findings of the project. A total of 236 teachers, school counselors and principals from 36 schools in Serbia were trained in order to settle the most effective educational school practices. The three-day long seminars were accredited by the Institute for the improvement of education for 2016/2017 and 2017/2018 school years (Quality teaching I – Social aspects of successful teaching, Quality teaching II – Organizational aspects of successful teaching and Quality teaching III – Cognitive aspects of successful teaching).

The basic concept and main steps in the IEEPS study can be graphically presented as follows (Figure 1).
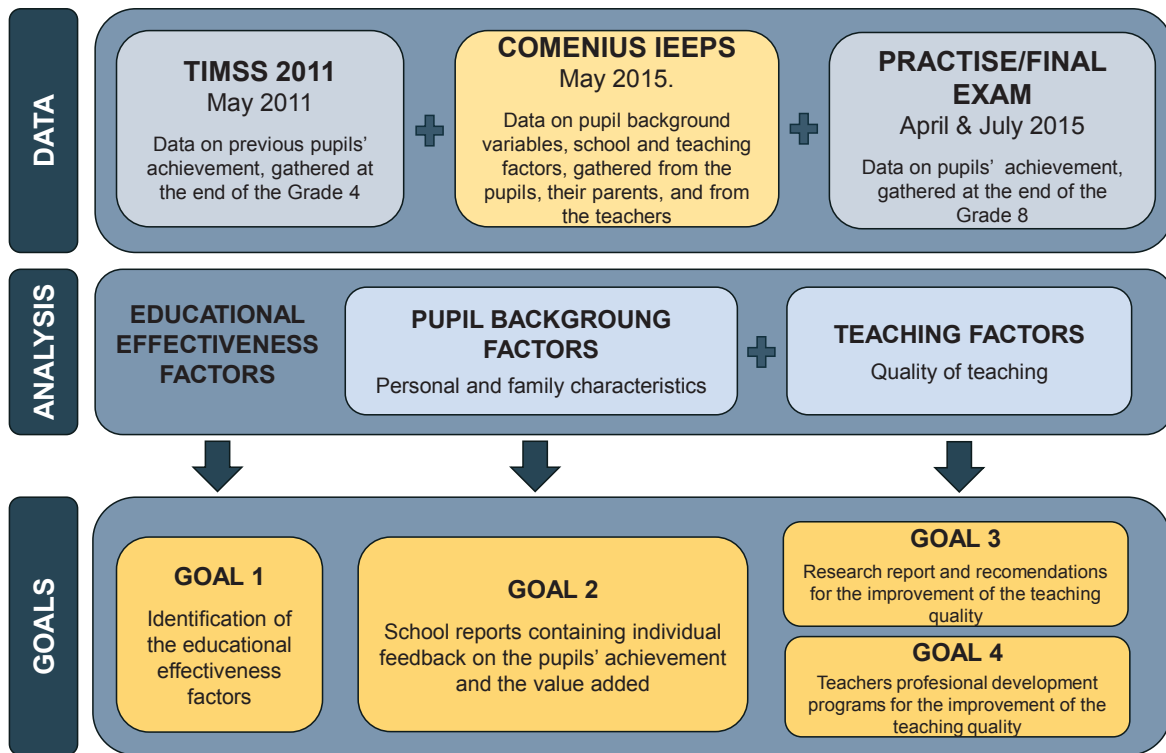
Figure 1. Data sources, conducted analyses and aims of the Comenius IEEPS Study

In creating this report, a School performance feedback system was used, developed in the KU Leuven University in Belgium. Although there have been several domestic studies offering certain value added data to schools in Serbia, this report is presenting such information in the most comprehensive way, to the greatest number of schools and for seven school subjects.

1.2. School sample description

This study was conducted on a nationally representative sample consisting of 125 primary schools in Serbia. In 115 schools, two 8th-grade classes were included, while in 10 schools only one eight-grade class was included in the study. These schools also participated in the TIMSS 2011 international testing. Most of the pupils with TIMSS results from those schools were included in the study, but the study also included additional classes, in order to achieve better representativeness of data for each school individually. The whole sample consisted of 5065 pupils.

1.3. A fair school comparison: Value added (VA) explained

If we wanted to establish whether your school`s performance is better or worse compared to other schools in Serbia, a simple comparison of pupil achievements would not give us a relevant answer. Schools can differ greatly on the basis of their pupil background, that is, on the basis of various different pupil characteristics that school has no influence on but are relevant for school achievement. These extracurricular characteristics include pupils` individual features such as gender, age, personal features, foreknowledge, but also family background, like parental material and educational status, family structure, and many others. Different schools enlist pupils with different individual characteristics, so they imminently have different starting positions. Even if they were to offer their pupils education of the same quality, the initial differences would disable them in finishing in the same position. However, a comparison of average pupil achievements in two schools does not give us an insight in the initial, but only the end positions of the schools, therefore not giving us a possibility of a fair comparison. For example, School A has better results in a final exam (19 pts) than School B (17 pts). At the same time, School B is attended by more pupils from poor material status families than School A. The difference between their achievements can be partially explained by the differences in their material status, being that pupils in School B probably lack in available home educational resources, such as computers and books. In order to fairly and responsibly compare School A and School B, we have to correct their average pupil achievements by taking into consideration these important pupil characteristics (Figure 2).

Beside the actual achievement of your pupils, this report will also show the *expected achievement of your school*, that is, the achievement that would be expected from your pupils on the basis of their individual characteristics. The difference between the actual and the expected achievement represents the value added (VA) of your school. When the actual average achievement is higher than the expected achievement, the value added is positive, which means that your school provides its pupils with quality teaching and environment that enables them to achieve higher results than expected on the basis of their gender, socioeconomic status, previous achievements, etc. If this difference is negative, certain characteristics of your school practice do not allow your pupils to achieve the expected. It is important to note here that the order of schools based on achievements or based on VA can be very different. Remember Schools A and B. School A has relatively high achievement (17 pts), but has even higher expected achievement (19 pts). School B has not that high achievement level (15 pts), but has even lower expected achievement (13 pts). That means

School B is providing actually higher quality education than School A. That is, School B is allowing its pupils to achieve results that are higher than expected on the basis of their individual characteristics, and the VA of School B (2 pts) is higher than the VA of School A (-2). This case scenario is shown in Figure 2.
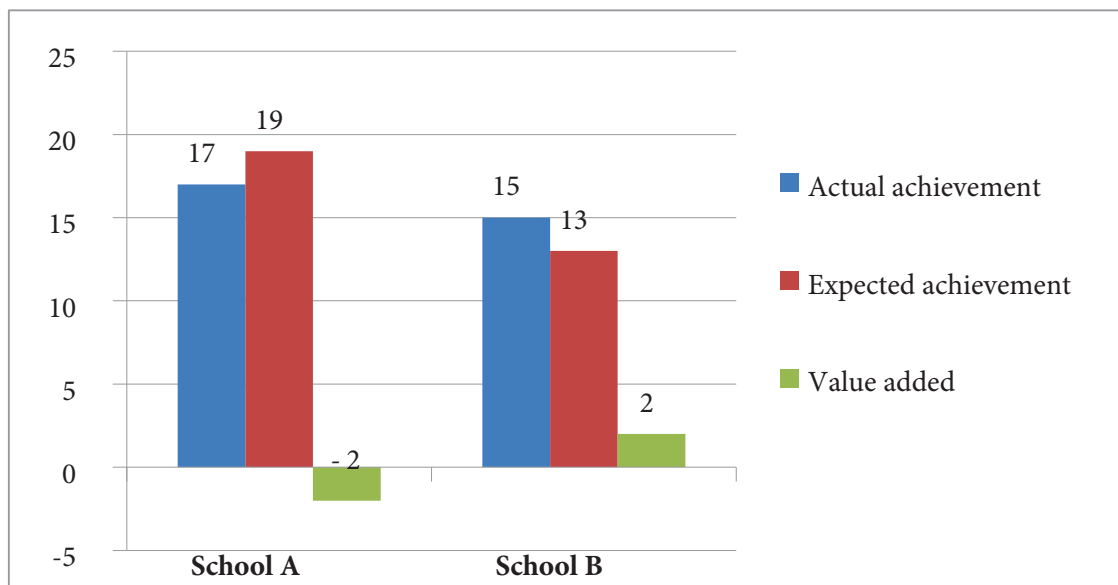

Figure 2. Value added of School A and School B.

Comparison of your school with other schools in Serbia based on VA helps you perceive the quality of education that pupils are offered in your school.

> **Value added (VA) = "Actual achievement" minus "Expected achievement"**

The Comenius IEEPS Study examined a vast number of pupil characteristics, recognized in literature as significant for foreseeing pupil achievement: their age, gender, preschool attendance, number of children in the family, single parent families, number of household members, socioeconomic status (combined information on parental education, their profession, and certain aspects of family resources), parental expectation regarding their child`s education level, pupil`s spare time reading habits, impulsiveness, conscientiousness and parental involvement. The data on these characteristics were gathered through pupil and parent questionnaires. We confirmed that the following pupil characteristics are statistically significant and meaningful in predicting pupil achievement: gender, attending preschool, number of children in the family, single parent family and socioeconomic status. Aside from these variables, statistically significant contribution to predicting achievement can be assigned to pupils` conscientiousness, their impulsiveness and their parents` involvement in their

education, but these variables are excluded from further consideration being that they represent subjective measures with small contribution. Additional to listed characteristics, the actual pupil achievement can be predicted to a large degree on the basis of a pupil`s previous achievement.

Although, in comparison with previous domestic research, this study covered the largest number of pupil characteristics so far, it is important to note that no study is able to cover all potential factors of pupil achievement (for instance, this study does not cover pupils` intelligence, sufficiently reliable measures of personality traits are not available for young adolescents, etc.). This information should be taken into consideration when investigating data about value added and expected achievements of the pupils in your school. Only if the analysis was to include all extracurricular factors of pupil achievement, the expected values and measures of value added would be entirely precise. Being that it is impossible for a single research study to cover all potentially significant variables, every study of this type, and that includes the Comenius IEEPS Study, provides with data that should be interpreted as approximate and in accordance with the aforementioned limitations.

1.4. Structure of the report explained

Beside the introductory part and the conclusion indicating the limitations of the Comenius IEEPS Study, the central part of this report is focused on achievement and value added of your school regarding particular school subjects. The achievement of your pupils in mathematics, Serbian language, combined test, biology, physics, chemistry, geography and history are presented.

The structure of the report for different school subjects is the same. Each subject report contains:
- The description of measuring scale and ways of forming scores representing the achievement;
- The data about your school`s performance compared to other schools in Serbia and to the nationally representative sample`s average;
- Information on your school`s value added (VA) for a particular subject, and a relative position of your school regarding the value added compared to other schools in the sample;
- For particular subjects (mathematics, combined test, biology, physics, chemistry, geography) we were able to include the data about previous pupil achievements

realized and presented in the TIMSS Study 2011, so we can provide with information about your school`s VA when considering these additional data;

▪ In order to determine VA, we also had to determine which pupil characteristics affect the pupil achievement for each subject. The final part of the report for each subject presents those characteristics, their connection to the achievement, and the ways these characteristics are distributed among pupils of your school who participated in the Comenius IEEPS Study.

1.5. The treatment of the data in this report

The data in this report are classified: only your school will receive the report on your achievement. The Comenius IEEPS Study team guarantees your results will never be presented in a way that could expose the identity of your school. After the report is delivered to your school, the school principal and school coordinator for Comenius IEEPS research are responsible for the report data confidentiality. We invite you to treat this report as internal, and interpret the data according to the instruction given in these text and charts. We encourage you to use this report as tools for your school`s work quality enhancement and to discuss and analyze the results with your school staff, but we also ask you not to publish or distribute this report outside the school.

We tried to present the results in this report in a clear and comprehensible way. If, in spite of our efforts, you have additional questions regarding the report, please do not hesitate to contact us. The contact info can be found at the back of this report. Finally, the data presented here imply certain limitations – these limitations are the topic of special section in the end of this report.

2. MATHEMATICS ACHIEVEMENT

2.1. Mathematics: Measuring scale and scores

Mathematics achievement is calculated on the basis of the results the pupils achieved on two exams: 1) the practice mathematics exam, 2) the final mathematics exam. We used both test results in order to enhance the validity of our analysis. Both exams consisted of 20 tasks each, with the maximum number of points on each task 0, 0.5 and 1. While both exams presented pupil achievement through sum scores obtained by simple addition of acquired task points, the Comenius IEEPS Study applied a more sophisticated technique of calculating pupil achievement. In calculating scores, the IRT (Item response theory) analysis was applied, which considers the difficulty of the task and assigns points to the task according to their level of difficulty. That way the total score is the sum of more difficult tasks carrying more points and easier tasks carrying less point. IRT scores are transformed into a scale varying from 0 to 20, with the higher score responding to higher achievement (Figure 3).
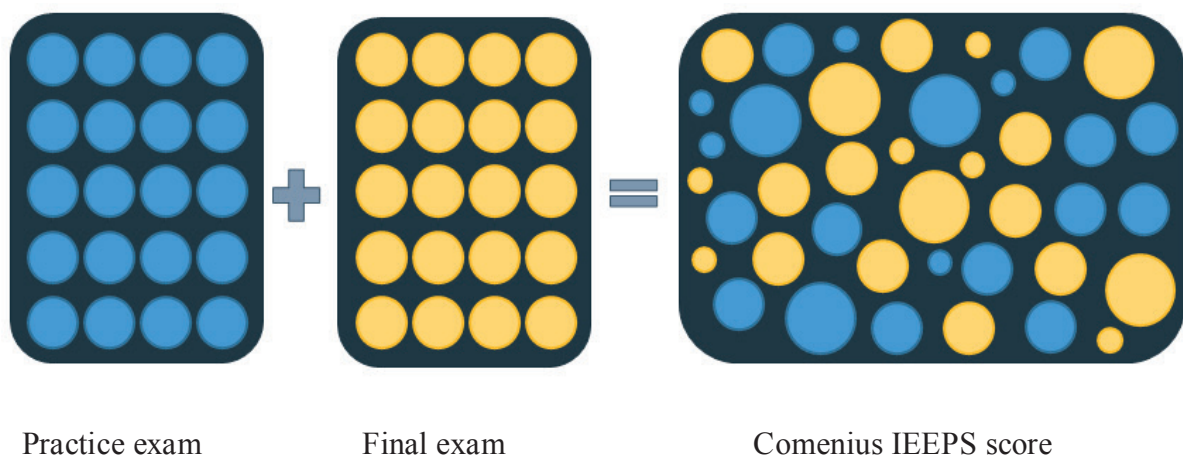

Practice exam   Final exam   Comenius IEEPS score

Figure 3. The formation of Comenius IEEPS scores of achievement
based on the results of the practice and final exams

2.2. Mathematics: Your school`s performance compared to Serbia`s average

Figure 4 shows the distribution of your school`s pupils according to the mathematics scores (scores are, as explained earlier, calculated on the basis of the achievement in the practice and final exams in mathematics). On the basis of the achievement of all pupils from the representative sample, the five levels of achievement were defined (the pie chart on the

right). The left pie chart shows the percentage of 8th grade pupils from your school who participated in the Comenius IEEPS Study in each of these levels.
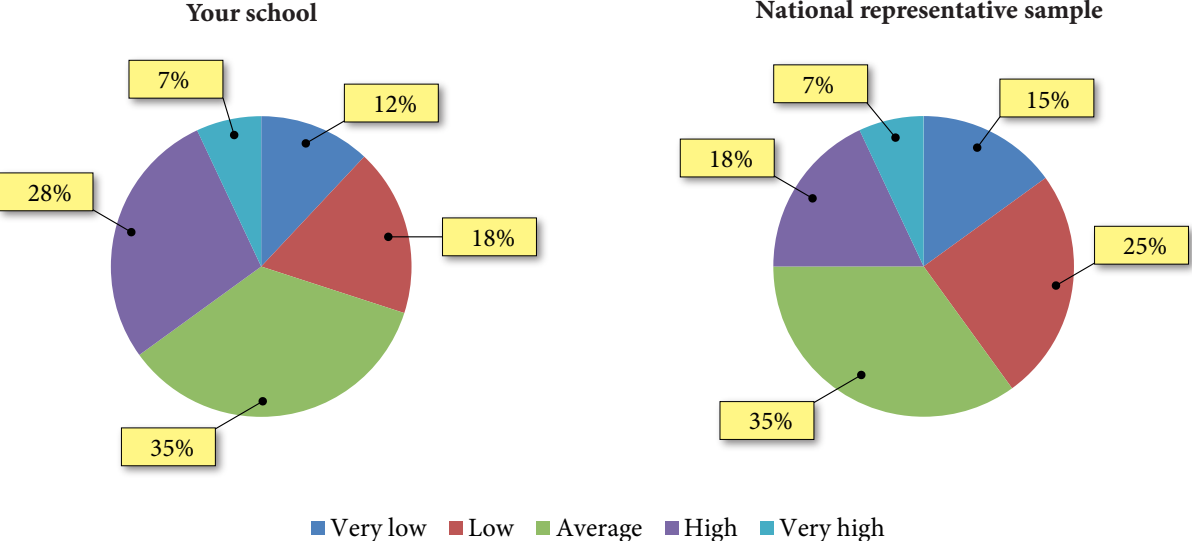

Figure 4. The distribution of pupils of your school according to the mathematics scores

The chart on Figure 5 shows the position of your school compared to other schools in the nationally representative sample regarding the performance in mathematics. It also shows the average performance of all schools that participated in this study, as well as the expected performance of your school, calculated on the basis of individual pupil characteristics relevant for the mathematics achievement. In mathematics, the following pupil characteristics are relevant for predicting pupil achievement: gender, length of preschool education, family size (number of children in the family), family completeness (single or two-parents family) and family`s socioeconomic status. These characteristics are described in detail in Chapter 2.5., including the strength and direction of their impact.

It is important here to remind that pupil mathematics achievement is also determined by other pupil characteristics (such as intelligence), which were not the subject of this study. Including such variables would give an even more reliable estimation of the expected achievement.
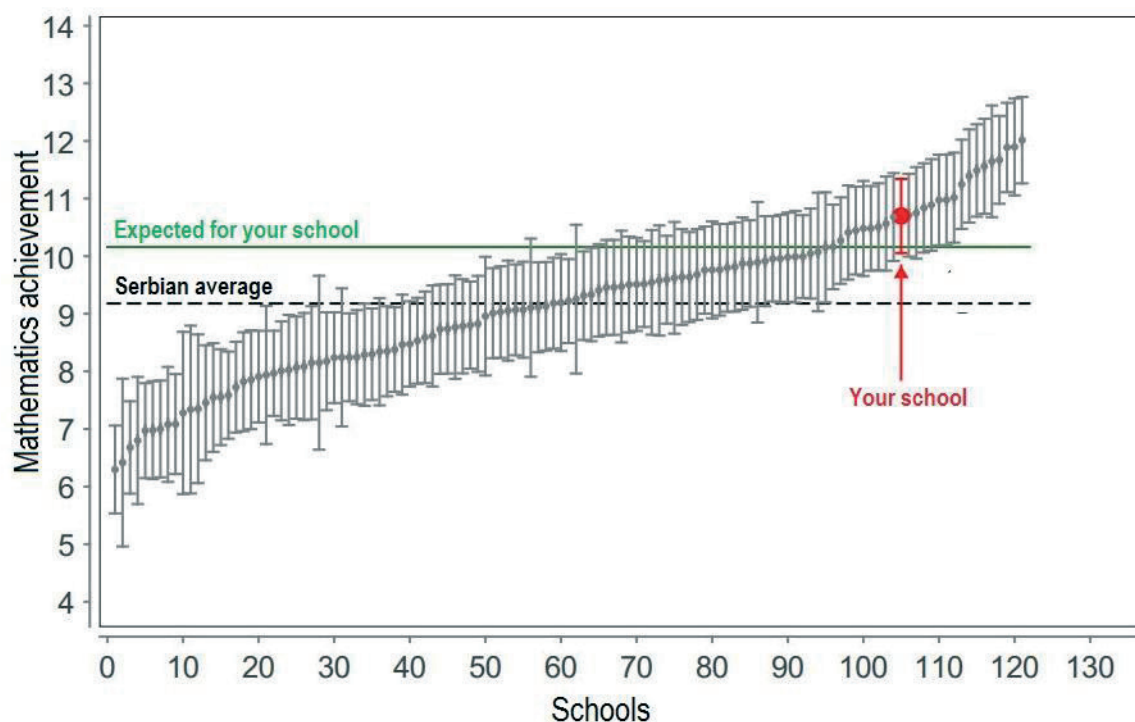
*Figure 5. Your school's performance compared to other schools
from the nationally representative sample*

Important elements of the chart on Figure 5 are:

➢ VERTICAL AXIS: This axis shows the average achievement of the pupils from the schools who participated in the Comenius IEEPS Study in mathematics. The higher score on the vertical axis indicates the higher average achievement.

➢ HORIZONTAL AXIS: All schools included in the study are distributed on the horizontal axis. They are ordered according to their ranking, from those with lower to those with higher average achievement in mathematics.

➢ HORIZONTAL PUNCTUATED LINE: This line represents the average achievement in mathematics within the nationally representative sample.

➢ HORIZONTAL GREEN FULL LINE: This line represents the expected achievement of pupils from your school, calculated on the basis of their characteristics.

➢ VERTICAL LINES: From each dot representing a particular school vertical lines are drawn. These lines mark the confidence interval of 95%. The confidence interval enables a 95% possibility of certainty that the average achievement of a single school is situated within presented vertical lines. These intervals help determine whether your school is statistically significantly above or under the average.

➢ THE RED DOT: The red dot represents your school's performance.

2.3. Mathematics: Your school`s value added

The difference between the actual performance and the expected performance of your school is the measure of the value added (VA) of your school regarding the mathematics achievement (Table 1). The bottom right cell of the Table 1 shows the VA of your school.

	Actual achievement	Expected achievement	Value added
Serbia	9.2	9.2	0
Your school	10.7	10.2	0.5

Table 1. Your school's value added

The chart on Figure 6 shows VA for all schools participating in Comenius IEEPS Study, ranked from those with the lowest to those with the highest VA. Each dot represents a school, and the rest of the chart is very similar to the content of the chart on Figure 5.
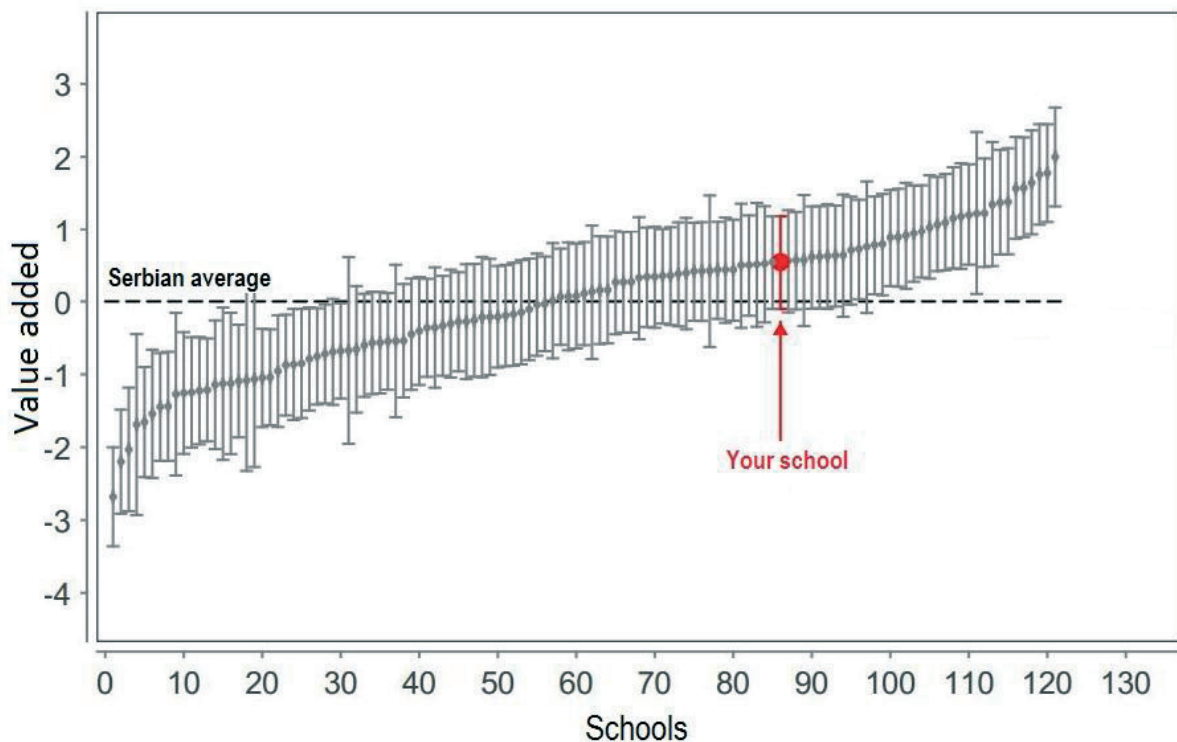

Figure 6. Your school's value added compared to other schools in the representative sample

Important elements of the chart on Figure 6 are:
- VERTICAL AXIS: This axis shows the VA, which can be positive or negative. The higher position on the vertical axis indicates the higher VA.
- HORIZONTAL AXIS: All schools included in the Comenius IEEPS Study are distributed on the horizontal axis. They are aligned according to their ranking, from those

with lower to those with higher VA for mathematics performance. The numbers 0-125 refer to the total number of participating schools.

➢ HORIZONTAL PUNCTUATED LINE: This line represents the average for Serbia, which is 0, so that you can easily see how far under or above the average is your school when it comes to VA regarding the mathematics.

➢ VERTICAL LINES: Similar to the chart on Figure 5, the vertical lines drawn from each dot represent confidence intervals of 95%. This means that we have a 95% probability in certainly claiming that the VA of your school is situated within the presented interval. If the punctuated line does not cross the confidence interval for your school, it means that your school is statistically significantly under or above the average.

➢ THE RED DOT: The red dot represents your school's value added.

2.4. Mathematics: Your school`s value added with control for previous achievement in mathematics (TIMSS 2011 – Mathematics)

In the previous chapter we presented the value added (VA) calculated on the basis of the data referring to all pupils of your school who participated in the Comenius IEEPS Study. For a lower number of your pupils, we had access to the data about their previous mathematics achievement, gathered during the TIMSS 2011 Study. It refers to a level of mathematics foreknowledge the pupils already had when entering the second cycle of primary education. The previous achievement is a strong predictor of the actual achievement, therefore this chapter will present your school`s VA when the equation for calculating the expected achievement includes the previous pupil achievement, alongside the five mentioned pupil characteristics. Calculated like this, the VA can be considered as an even better indicator of your school`s work quality in the second cycle of primary education, but we should consider the fact that the analysis was conducted on a slightly changed pupil sample.

The Table 2 presents the VA for mathematics achievement when the equation for calculating the expected achievement includes the previous achievement in mathematics, that is, the achievement of pupils in TIMSS 2011 testing.

	Actual achievement	Expected achievement	Value added
Serbia	9.4	9.4	0
Your school	10.7	10.1	0.6

Table 2. Your school's value added with control
for previous achievement in mathematics

The Figure 7 shows the position of your school within the representative sample regarding the VA calculated on the basis of a formula which includes the previous achievement.
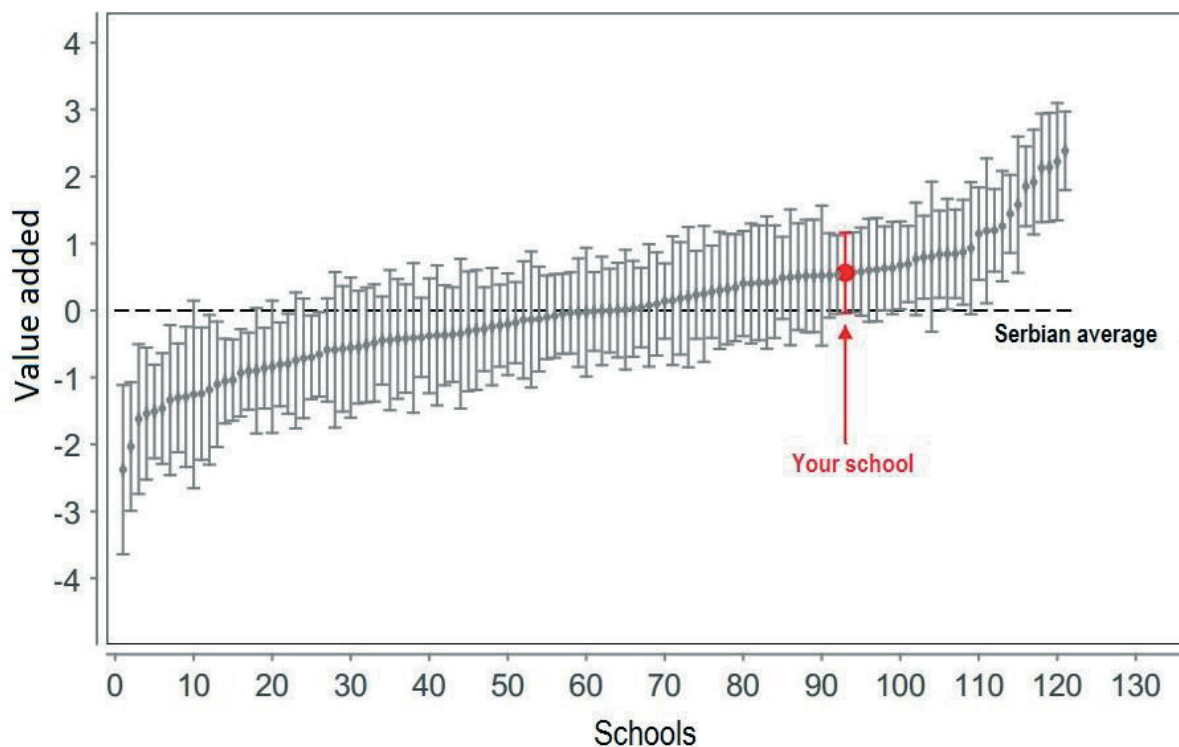

Figure 7. Your school's value added with control for previous achievement in mathematics compared to other schools in the representative sample

2.5. Mathematics: Relation between relevant pupil characteristics and mathematics achievement

Before the analysis of the characteristics, it was determined that 80.75% of differences between pupil achievements on the final exam in mathematics come from the differences that are distinctive for pupils (potentially because they have different parents, they live in different households, have different resources and different levels of motivation, different intelligence quotients, different gender, etc.) while 19.25% of differences in pupil achievement come from the differences between the schools these pupils attend (potentially because their schools have different teachers, different principals, different school environment and resources, but also because the schools themselves differ in pupil population). Then we approached the analysis of the tested pupil characteristics. The contribution of every single characteristic was analyzed and it was determined that 45.10% of differences in pupil achievement in mathematics can be explained with the following characteristics of the pupils and their families:

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1. Pupil gender - 0.30%
2. Preschool education – 2.90%
3. Family size (number of children in the family)- 0.15%
4. Family completeness (a child has both or one/none parents) - 0.20%
5. Socioeconomic status of the family - 16.35%
6. Previous achievement – 25.20%

After the control of the abovementioned characteristics, there were about 45.05% of differences on pupil level that could be explained by factors which this study was not able to include, while on school level there were 9.85% of differences in pupil achievement left unexplained. These analyses indicate that, after both pupils and schools were evened according to the stated pupil characteristics, only 9.85% of differences in pupil achievement could be assigned to exclusively school factors, including the teaching quality itself.

This chapter will present the relation between each of these variables and pupil achievement in mathematics, as well as the manners in which these characteristics are distributed within the tested sample of the pupils from your school.

2.5.1. Pupil gender

International research shows that boys achieve significantly better results than girls in mathematics (TIMSS, PISA). Within the Comenius IEPPS Study, it was determined that girls are somewhat better than boys in mathematics. When considering gender influence on achievement in this study, it is important to stress that this influence is small.

Figure 8 on the left shows the percentage of boys and girls from your school who participated in the Comenius IEEPS Study, while on the right the gender percentage representation of the whole sample of schools participating in this research is shown.
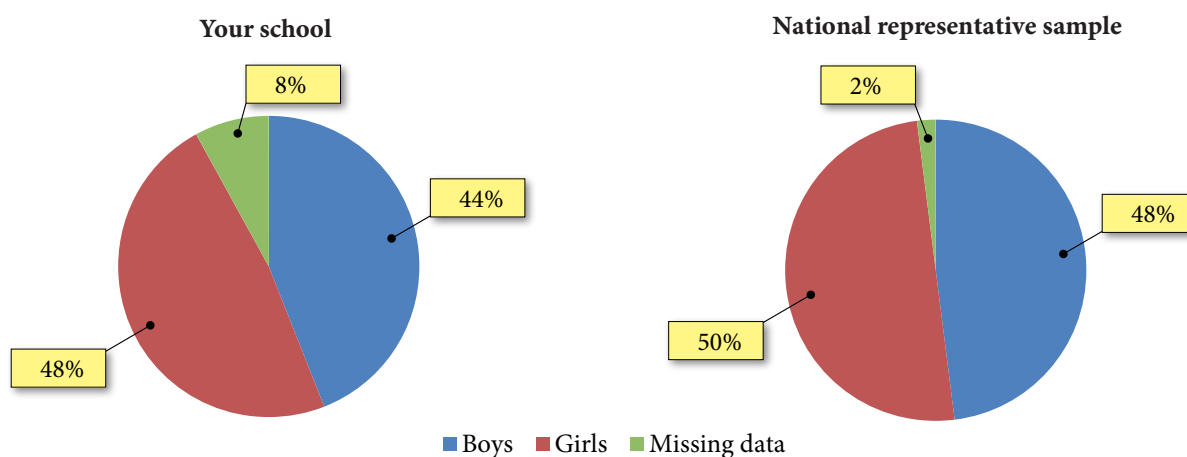

Figure 8. Sample distribution according to gender

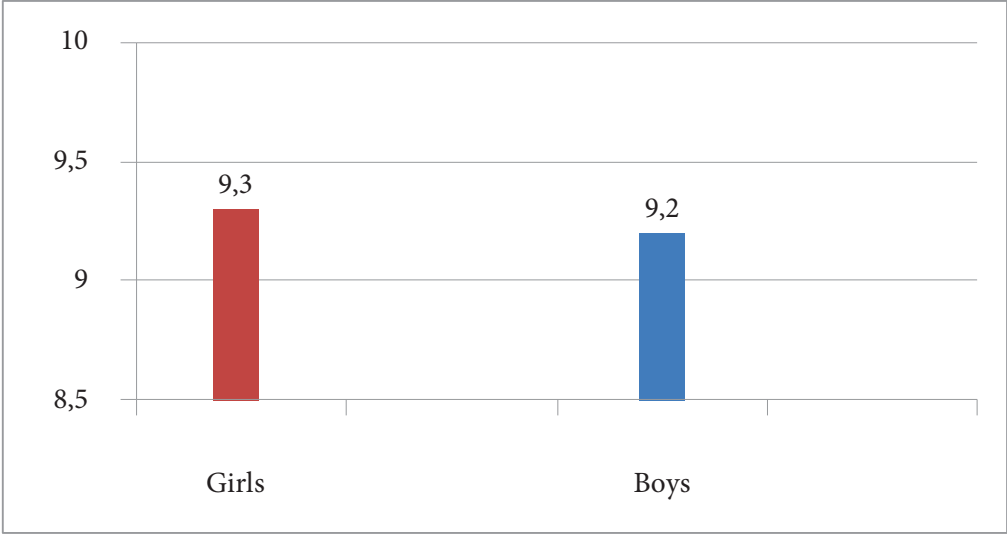Figure 9 shows the average scores in mathematics for boys and girls in the representative sample.

Figure 9. Differences in achievement in mathematics
between boys and girls

2.5.2. Preschool education - distribution and differences

This study confirmed that pupils whose preschool education lasted longer than one year have better achievement in mathematics at the end of primary school education than those who attended preschool for one year or didn`t attend at all.

Figure 10 on the left shows the percentage of pupils of these three categories in tested classes from your school, while the percentage of pupils belonging to these categories within the whole sample is shown on the right.
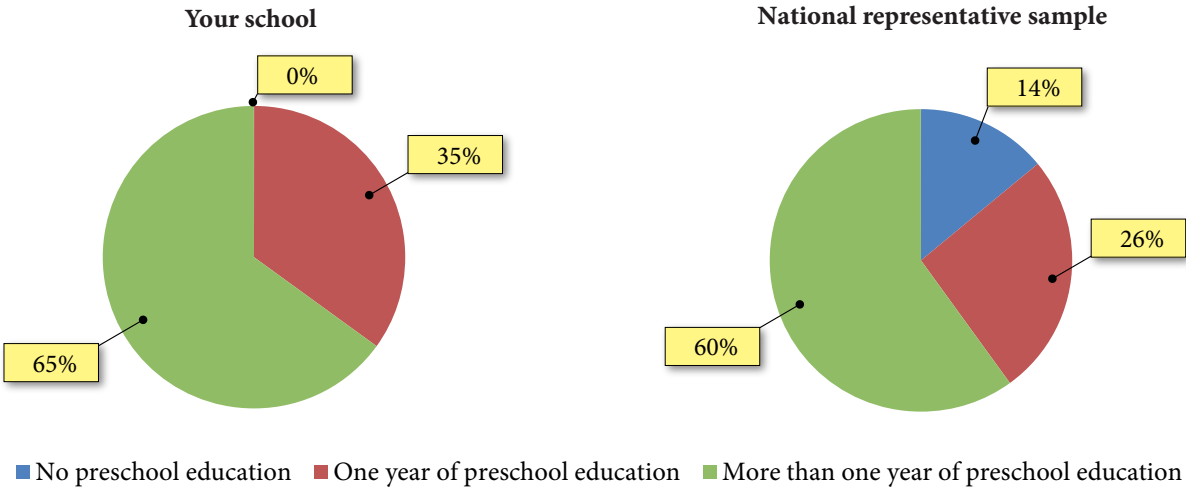
Figure 10. Sample distribution according to the length of preschool education

Figure 11 shows the average scores in mathematics for pupils from the representative sample according to the length of preschool education.
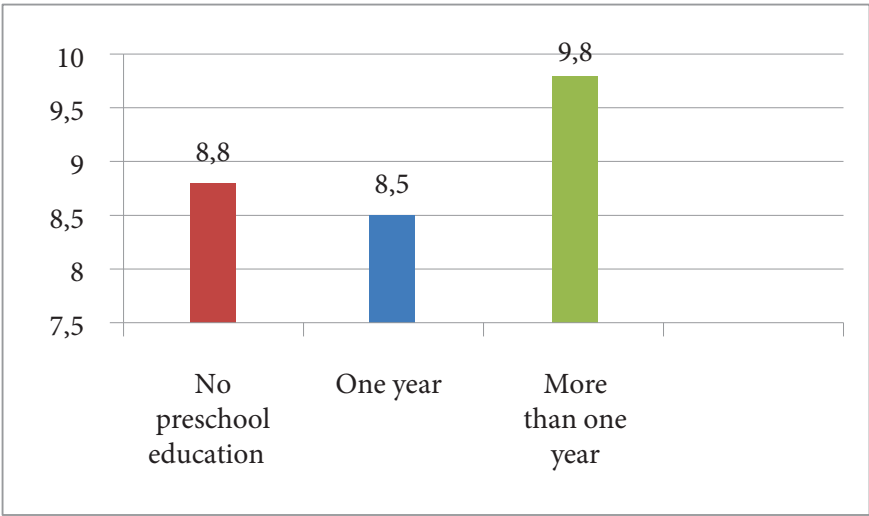

Figure 11. Differences in achievement in mathematics according to the length of preschool education

2.5.3. Number of children in the family - distribution and differences

Pupil`s family size, expressed through the number of children in the family, also influences the achievement of final-grade pupils of primary school, although this influence is small. It is determined that pupils from families with smaller number of children have slightly better results in the final exam.

Figure 12 on the left shows the distribution of pupils from your school that participated in the Comenius IEEPS Study according to their family size, while on the right the percentage representation of pupils from these categories in the whole sample is shown.
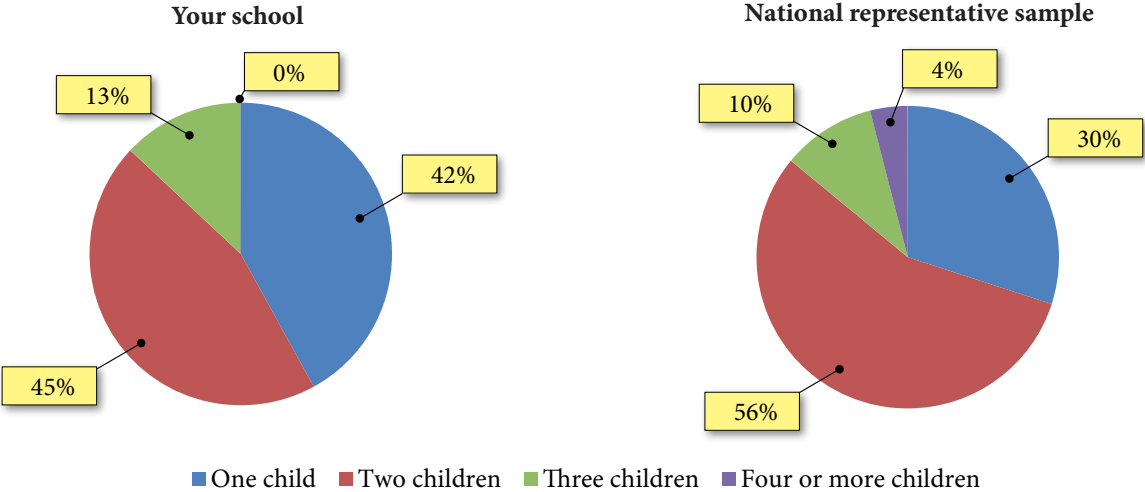

Figure 12. Sample distribution according to the number of children in the family

Figure 13 shows the average scores in mathematics for pupils in the representative sample according to their family size.
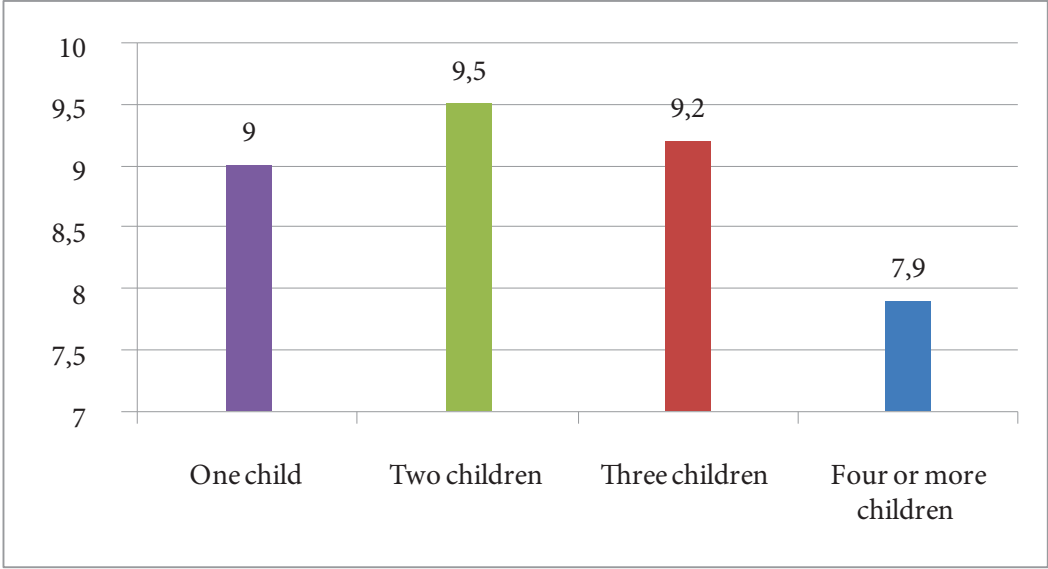

Figure 13. Differences in achievement in mathematics according to the pupil`s family size

2.5.4. Completeness of the family - distribution and differences

Another family variable has small, but statistically relevant impact on achievement of pupils in mathematics. Pupils who live in complete families (with both parents) have slightly better results than pupils living with one or no parents.

Figure 14 on the left shows the distribution of pupils from your school who participated in the Comenius IEEPS Study according to the completeness of the family, while on the right the percentage representation of pupils belonging to this category within the whole sample is shown.
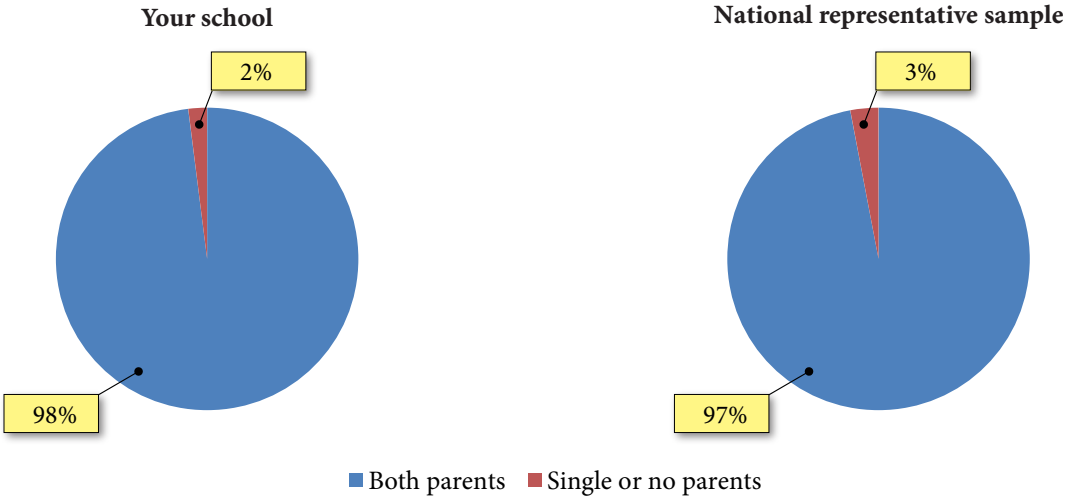

Figure 14. The sample distribution according to the completeness of the family

Figure 15 shows the average scores in mathematics for pupils from the representative sample according to the completeness of their family.
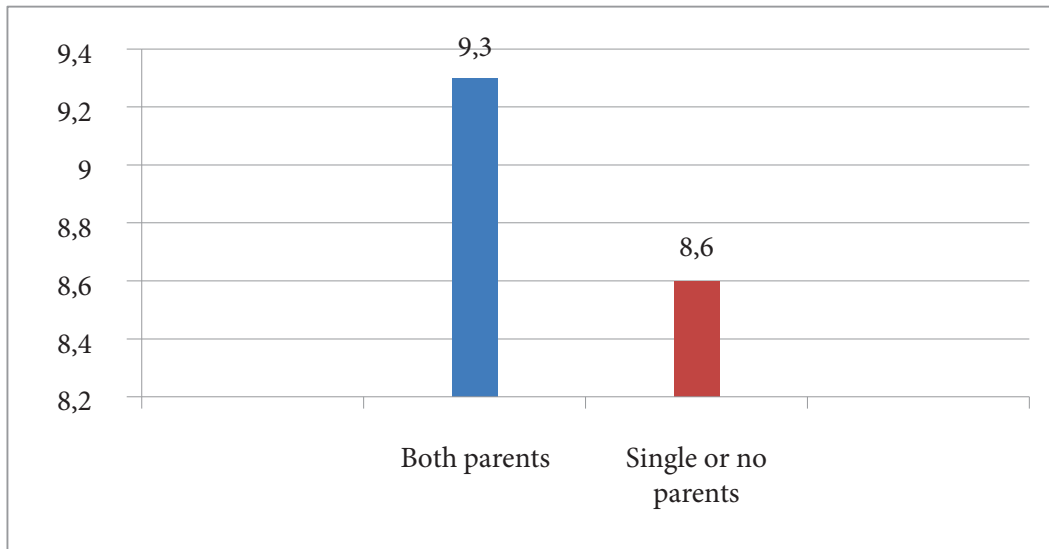

Figure 15. Differences in achievement in mathematics according to the completeness of the family

2.5.5. Socioeconomic status (SES) - distribution and differences

According to previous research, pupil socioeconomic status (SES) is a variable that has the greatest impact on pupil achievement among all of the researched extracurricular variables in this study. Almost a fifth of differences between pupil achievements can be explained with differences in socioeconomic status. As expected, pupils with higher SES have significantly better results in mathematics than pupils with lower SES. In this study, the socioeconomic status of pupils was measured through several parameters (parental education, their profession, possession of different educational resources etc.).

Figure 16 shows the distribution of pupils from your school who participated in the Comenius IEEPS Study according to their socioeconomic status, while on the right we show the percentage representation of pupils from this category within the whole sample.
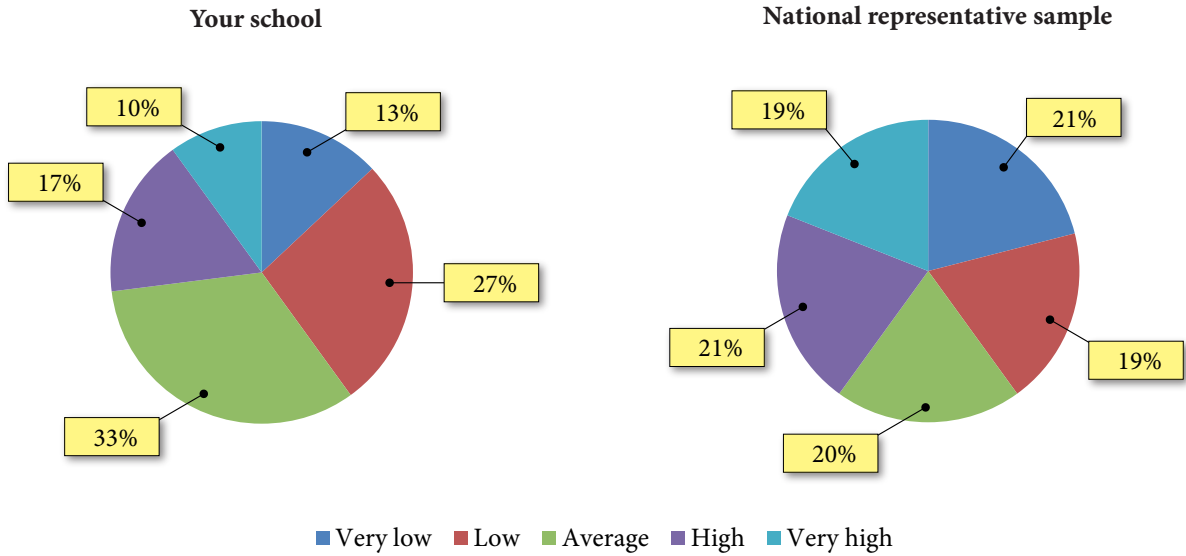
Your school

National representative sample

- Very low ■ Low ■ Average ■ High ■ Very high

Figure 16. Sample distribution according to the socioeconomic status

Figure 17 shows the average scores in mathematics for pupils with different socioeconomic status. These differences refer to the whole representative sample.
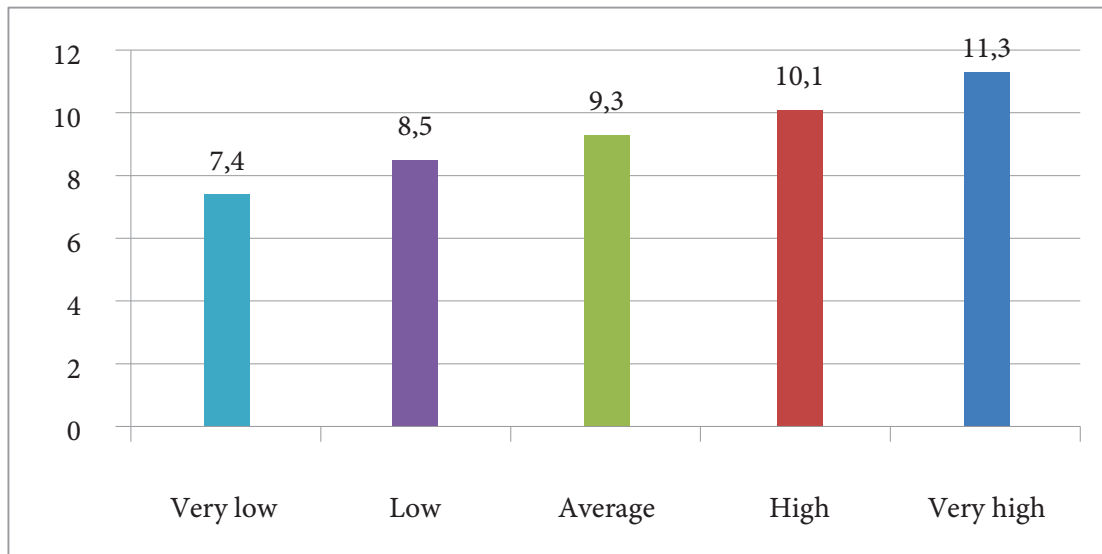

Figure 17. Differences in achievement in mathematics
according to the SES level

2.5.6. Previous achievement: achievement in TIMSS 2011 - distribution and differences

Previous achievement greatly influences the level of actual achievement. Being that the Comenius IEEPS Study is devised to include the pupils who participated in the TIMSS 2011 Study, we had the opportunity to test to what extent the mathematics achievement at the end of the 4th grade influences and explains the achievement of pupils at the end of the 8th grade of primary school.

Figure 18 on the left shows the distribution of pupils from your school who participates in the Comenius IEEPS Study according to the level of their previous achievement (their score on TIMSS 2011 testing), while on the right the percentage representation of the pupils from these categories in the whole sample is presented.
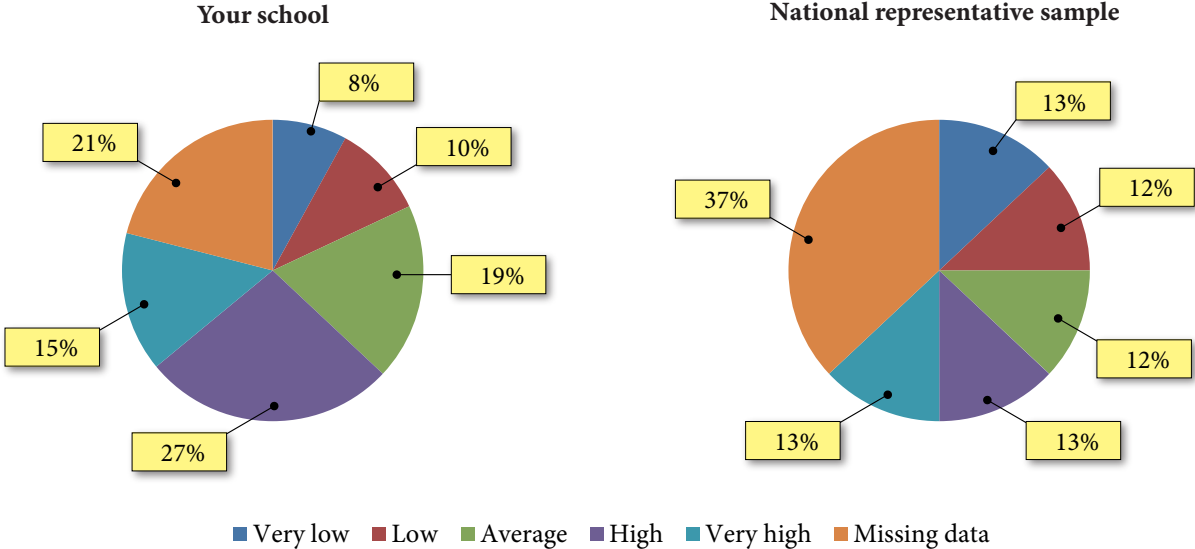

Figure 18. Sample distribution according to previous achievement in mathematics on TIMSS 2011 testing

Figure 19 shows the average scores in mathematics for pupils who had different levels of achievement on the TIMSS 2011 testing. These differences refer only to the pupil sample of the Comenius IEEPS Study who also participated in the TIMSS 2011 Study.
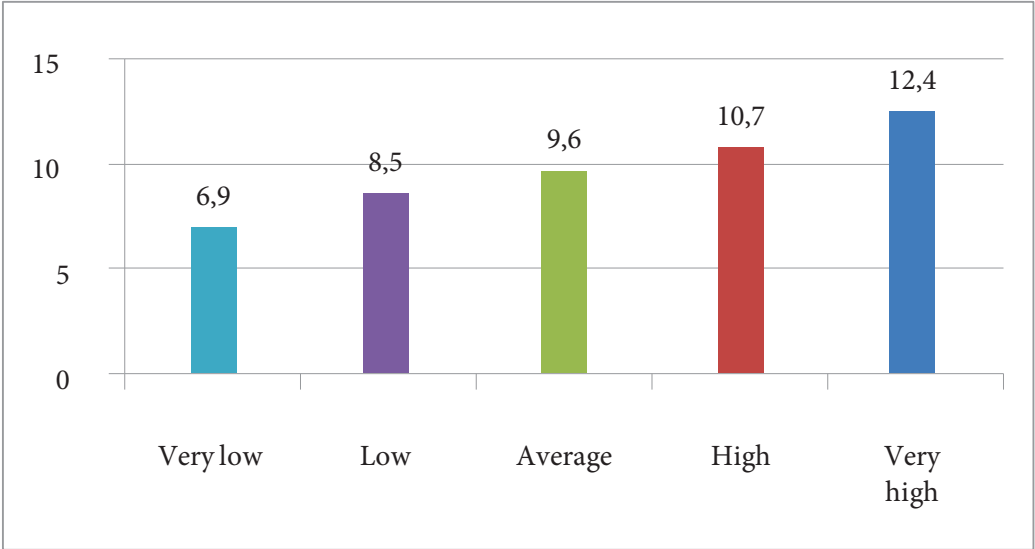

Figure 19. Differences in achievement in mathematics according to the previous achievement in mathematics TIMSS 2011 testing

3. LIMITATIONS OF THE STUDY

In interpreting the results presented in this report, one should keep in mind the following limitations of the Comenius IEEPS Study:

- IMPOSSIBILITY TO GENERALIZE THE DATA ON A WHOLE SCHOOL LEVEL: These data refer exclusively to the 8th grade pupils from your school. Therefore we invite you to also treat the data considering the characteristics of the generation included in this study. Is it a "weaker", an average or more successful generation? Is there something special about this group of pupils that could have influenced their achievement (a frequent change of teachers of a specific subject, discontinuation in teaching etc.)?

- DIFFERENCES BETWEEN CLASSES: The analysis did not make differences between the two classes sampled from your school. All data referring to your school present average values for all pupils from your school who participated in the Comenius IEEPS Study.

- MEASURE OF ACHIEVEMENT: The results from the practice and final exams do not cover all fields that pupils studied within the analyzed school subjects, nor are the tasks on the final exams designed to test all levels of knowledge. The achievement in biology, physics, chemistry, geography and history was tested with a significantly smaller number of tasks than the achievement in mathematics or Serbian language, therefore these scores are characterized by lower reliability.

- FACTORS INFLUENCING THE ACHIEVEMENT: This study tested a wide specter of individual pupil characteristics; nevertheless it is practically impossible to test all factors influencing the pupil achievement in a single research. Therefore all values predicted on the basis of pupil characteristics (the expected achievement of pupils and value added) should be treated as the best available approximations, not as absolutely precise and infallible.

INFORMATION ABOUT THE PROJECT

Title of the project:
IMPROVING EDUCATIONAL EFFECTIVENESS OF PRIMARY SCHOOLS (IEEPS)
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Partners:
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