

INCLUSIVE EDUCATION
Programme

REPORT

from the
Baseline
Study

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CONTENTS

INTRODUCTION	6
EXECUTIVE SUMMARY	9
Objective of the study	9
Conducting the study	10
Basic findings of the study	11
Recommendations	15
PART I – BACKGROUND INFORMATION	19
1. Schools included in the Programme.....	22
2. Trainings and dissemination of trainings	26
PART II – METHODOLOGY.....	31
1. OBJECTIVES OF THE STUDY	32
2. CONCEPTUAL FRAMEWORKS	33
3. INDICATORS	35
4. METHODS AND INSTRUMENTS FOR DATA COLLECTION.....	37
4.1. Methods for data collection	37
4.2. Data collection instruments.....	39
5. SAMPLE	44
5.1. Students	44
5.2. Teachers	45
5.3. School Principals and support staff.....	45
6. DATA COLLECTION, PROCESSING AND ANALYSIS.....	46
6.1. Timeframe of data collection.....	46
6.2. Data processing	48

PART III – RESULTS	51
1. UNDERSTANDING OF INCLUSIVE EDUCATION AND INCLUSIVE PRACTICES BY THE TEACHERS	52
1.1. Understanding students with special educational needs and identification of different types of educational needs	54
1.2. Catering to the special educational needs of the students	57
1.3. Catering to the educational needs of the Roma students	62
1.4. The understanding of the teachers related to the factors for successful.....	68
2. UNDERSTANDING OF INCLUSIVE EDUCATION BY THE EDUCATIONAL PERSONNEL IN THE SCHOOL AND THE INCLUSIVENESS OF THE SCHOOL AS A WHOLE.....	72
2.1. Understanding the students with special educational needs and identification of the different types of special educational needs of the students in the school.....	73
2.1.1. In their opinion, who are the students with special educational needs.....	73
2.1.2. Assessment of the number of students with SEN and their special educational needs	75
2.2. Supporting the students with special educational needs in the school	77
2.2.1 Type of support do the students with special educational needs require in the school	77
2.2.2. How much do the schools cater to the special educational needs of the students	78
2.3. Educational needs of the students of Roma ethnicity and the support they receive at the school.....	83
2.4. The support that the school needs to better cater to the educational needs of the Roma students	86

2.5. Inclusive policies and practices at school level	87
2.5.1. General level of inclusiveness in the schools in terms of marginalized students	89
2.5.2. Self-assessment of inclusive practices in the different domains	90
3. STUDENTS' ACHIEVEMENTS	101
3.1. Students' achievement at the end of the first cycle of primary education.....	103
3.1.1. Students' achievements on the test in mother tongue	103
3.1.2. Students' achievements on the mathematics test	123
3.2. Students' achievements at the end of the second cycle of primary education.....	143
3.2.1. Students' achievements on the test in mother tongue	143
3.2.2. Students' achievements on the test in mathematics.....	163
APPENDIX 1.	
AVERAGE SELF-ASSESSMENTS OF THE PILOT-SCHOOLS ON THE INDICATORS FOR INCLUSIVE EDUCATION	187
REFERENCES.....	197

INTRODUCTION

The Programme-*Inclusive education for the marginalized children, hereinafter the Programme* is a continuation of the Programme for improving the quality of education- *Thinking Mathematics and Language literacy in early grades*, and within the *Child-Friendly Schools* programme, supported by UNICEF, which is carried out in the former Yugoslav Republic of Macedonia since 2008. On one hand, it was initiated based on the findings about the effects of the programmes for mathematical and language literacy¹, and on the other hand, to contribute to the implementation of the national policy for inclusion of the most marginalized groups of children. The objective of the Programme is to improve the quality of learning, especially in basic knowledge and skills related to mathematics and language. Moreover, the objective is to support the learning of the Roma students and improve their achievements, and consequently the achievements of all students at national level.

The programme is directed towards:

- Inclusion of all children in the classroom/school and education system;
- Development of competences for inclusive education teacher;
- Promotion of teaching approaches that will provide greater student achievements;
- Provision of additional support to the students with special educational needs / learning difficulties;

1 The study of the programmes' effects showed that there are statistically significant improvements of the students' achievements in mathematics and in reading comprehension, in the project schools in which the programme was realized, compared to the control schools. (Aleksova A., G. Mickovska, M. Cheshlarov (2012) *Thinking Mathematics in early grades – Report on the research of the achievements at the end of the first cycle of the realization of the project*, MCEC, Skopje; Mickovska G., A. Aleksova, B. Naceva, A. Mickovska, M. Cheshlarov (2010) *Report of the baseline study – Project: Language literacy in early grades*, Macedonian Civic Education Centre, Skopje)

- Use of formative assessment and developing an understanding of intelligence as flexible category through the learning process²;
- Inclusion of the parents and the wider community.

The Programme was realized in seven primary schools in the first half of 2014. The baseline study was conducted at the beginning of the realization in order to:

- (1) Observe the needs of the school and educational staff, which will be used to plan the activities in the Programme;
- (2) Provide basic findings about the situation in the schools, which will be used to monitor and support the realization of the Programme; and
- (3) Measure the students' achievements in mathematics, reading and writing and use them to monitor the effects of the Programme on mathematical and language literacy.

The conceptual framework in the study is established on the basis of the analysis of the factors which could influence the effects of the project activities. Therefore, the study makes an effort to obtain answers to the following questions:

- How inclusive are schools as a whole?
- How do the key actors in the educational process (teachers, school principals, and support staff) understand inclusive education?
- What mindset is developed by the teachers in relation to the understanding of intelligence?
- Are the teachers prepared to work with students belonging to marginalized groups, particularly the students with special educational needs?
- What type of additional training do the teachers need?

.....
 2 The phrase "mindset" is used in foreign literature to describe individuals based on their behaviour, specifically their reaction to failure. , Those with a "fixed mindset", make efforts to prove they are intelligent, instead of developing it. Those with a "flexible/growth mindset" believes that intelligence can be developed through hard work and dedication, and the abilities are only the starting basis, work hard and want to learn, which is important for great achievements. The teachers should develop an understanding among the students that intelligence and abilities may be developed through the learning process.

- Do the students' achievements in mathematics, reading and writing meet the goals foreseen at the end of the first cycle³ and at the end of the second cycle of primary education?

The results in the report are given in great detail to assist the managers of the programme and the schools included in the programme, in planning the activities, as well as for further evaluations. Part one and part two of the Report contain basic information about the Programme and about the methodology of the study, and particular attention is dedicated to the results of the study, which are given in part three.

3 The first cycle of primary education includes grades 1-3; the second cycle includes grades 4-6. The measurement of the student's achievements was conducted after completion of grade 3 and grade 6 (at the beginning of grade 4 and grade 7). The teachers that were teaching the students in third or sixth grade till June 2014 are the same teachers that are teaching the same students in fourth or seventh grade from September 2014.

EXECUTIVE SUMMARY

Objective of the study

The objective of the baseline study is to provide valid and evidence-based findings about the relevant situation at the beginning of the Programme in the seven primary schools as the basis for:

- Planning the programme activities;
- Monitoring the quality of the application of inclusive approaches to teaching in the schools included in the realization of the Programme, particularly teaching of reading and writing, as well as teaching of mathematics;
- Measuring the effects of the realization of the Programme, expressed by increasing the inclusiveness of the schools and the students' achievements in mathematics and mother tongue, particularly of Roma students.

In particular, it is expected that the baseline study will provide information on:

1. Inclusiveness of the schools;
2. Understanding of the students with special educational needs by the education staff;
3. Training and competences of teachers to work with students with special educational needs;
4. Teachers' understanding of the concept of abilities and how it is related to the students' achievements;
5. The perception and experiences of the schools' employees concerning the interest of the parents of Roma students in their children's learning;
6. Students' achievements at the end of the first cycle and at the end of the second cycle in primary education on tasks related to reading comprehension and writing, and some socio-cultural factors which are related to these achievements; and;
7. Students' achievements at the end of the first cycle and at the end of the second cycle in primary education on mathematical tasks and some socio-cultural factors which are related to these achievements.

Conducting the study

The baseline study was conducted in all seven schools included in the programme *Inclusive education for marginalized children*. The study involved:

- School principals (total of 7);
- Representatives of the support service (total of 12);
- Teachers in the first grade (43 teachers) and the fourth grade (38 teachers) and subject teachers of Albanian and Macedonian language and mathematics who taught the sixth and seventh grade (30 teachers);
- Students from the fourth grade (252 tested in mother tongue and 259 in mathematics); and
- Students from the seventh grade (249 tested in mother tongue and 265 in mathematics).

The data were collected through investigations, discussions in the focus groups and testing the students. The following instruments were drafted and used for the needs of the study:

- Questionnaire for teachers;
- Questionnaire for school principals;
- Scale for self-assessment of the school's inclusiveness;
- Directions for leading the discussion in the focus group with the support staff;
- Test in reading comprehension for students in the first cycle;
- Test in writing for students in the first cycle;
- Test in mathematics for students in first cycle;
- Questionnaire about the state and habits related to reading, writing and learning mathematics for students in the first cycle;
- Test in reading comprehension for students in the second cycle;
- Test in writing for students in the second cycle;
- Questionnaire about the state and habits related to reading, writing and learning mathematics for students in the second cycle.
- Test in mathematics for students in second cycle;

The data were processed and analysed for all tested subjects and they were presented according to the determined indicators, and regarding the students' achievements, comparisons are made between the achievements of the students of Roma ethnicity and the students of other ethnicities and background in the schools.

Basic findings of the study

The indicators, the short description of every indicator and the main findings related to it, are given in the table below.

INDICATOR	SHORT DESCRIPTION	FINDINGS
1. Understanding of inclusive education and inclusive practices of the teachers	Which students are considered by the teachers as students with special educational needs (SEN); which educational needs they have identified particularly among the Roma students, to what degree they cater to these needs, self-assessment of the competence for inclusive education and training needs. Understanding of different factors for successful learning and of mindset as a fixed or flexible category.	<ul style="list-style-type: none"> » The teachers do not have equal understanding of the students with SEN and do not recognize all groups of students with SEN. » The majority of the teachers believe that they are successful in meeting the SEN of a part of the students and that they possess most competences for inclusive education. » According to the teachers' perceptions, the higher grades have larger number of Roma students with learning difficulties, and a larger number of students whose needs they can not intercept. » The teachers are not successful in obtaining the adequate support from the family; even when they are interested, they are not able to help the students with their learning. » Almost half of the teachers believe that the school cannot do much for the Roma students to complete primary education with success and enrol in high school. » The teachers are divided in their opinions about the significance of intelligence and engagement for successful learning. » The majority of the teachers believe that the intelligence and the characteristics of the individual can mainly be altered, if an effort is made.

INDICATOR	SHORT DESCRIPTION	FINDINGS
<p>2. Understanding of inclusive education by the educational staff and the inclusiveness of the school as a whole</p>	<p>Who are the students that are considered to have special educational needs by the school principals and the support staff, how does the school cater to their needs, particularly the needs of the Roma students and self-assessment of the school's inclusive policies and practices.</p>	<ul style="list-style-type: none"> » The schools' management staff has different understanding of the group of students with SEN, but the majority of school principals and the support staff have accepted the broad definitions of the group of students with SEN. » Almost every school principal (6) believes that their school is catering to most or all educational needs of the students, but the support staff have identified numerous difficulties in catering to the students' special educational needs. » Every school principal is aware that most Roma students have learning difficulties and they believe that the school provides them with the necessary support, most of the time. » The school principals and the support staff often blame the families about the learning difficulties of the Roma students and they believe that working with the families and supporting them should be an important segment of the Programme. » The schools assess their own inclusive practice quite highly, in many of the 7 domains of evaluation of the schools' work (the average self-assessments are above the arithmetic average value of 2.5). Every school gave the lowest grade in relation to resources (material and staff) for conducting successful inclusion.

INDICATOR	SHORT DESCRIPTION	FINDINGS
3. Students' achievements at the end of the first cycle of primary education	Students' achievements on the test in reading comprehension and the test in writing.	<ul style="list-style-type: none"> » The achievements on the overall test in reading and writing are lower than the expected results prescribed in the curriculum for the first cycle (the average score is 34%), where the results in reading are at the level of the curriculum requirements (the average score is 52%), and the results in writing are significantly below the requirements (the average score is 21%). » The results of the Roma students are significantly lower (by 12 percentage points) than the other children. » The students of parents with completed more than primary education, and employed fathers, and from families that speak the language of instruction at home, have greater achievements; though not many Roma students fall in that group. » Frequent mutual activities of the adults in the family with the student, in relation to reading, are also related to greater achievements.
	Achievements on the test in mathematics	<ul style="list-style-type: none"> » The achievements on the test in mathematics are lower (the average score is 29%) than the expected results prescribed in the curriculum for the first cycle. » The achievements of the Roma students are significantly lower than those of the other students (by 12 percentage points). The difference is greater in the domain of operations and problem solving compared to the domain of numbers. » The students have significantly lower results in the domain of word problems compared to the tasks that are given only with numbers or graphically. » The students from parents with completed more than primary education and who speak the language of instruction at home, have greater achievements; though not many Roma students fall in that group. » The parents' greater interest in learning mathematics together with the child is related to greater achievements on the test.

INDICATOR	SHORT DESCRIPTION	FINDINGS
4. Students' achievements at the end of the second cycle of primary education	Students' achievements on the test in reading comprehension and the test in writing.	<ul style="list-style-type: none"> » The achievements in reading and writing are somewhat below the level (the average score is 39%) of expected results and prescribed basic requirements in the curriculum for the end of second cycle, where the results in reading are somewhat above the level of the curriculum requirements (the average score is 60%), and in writing they are significantly below (the average score is 20%). » The Roma students have significantly lower achievements. The average task score of the Roma students is by 16 percentage points lower than the average score of the other students - from other ethnicities. » The students of parents with completed more than primary education, with better learning home environment and that speak the language of instruction at home, have greater achievements; though not many Roma students fall in that group. » The students who are supported by the adults at home when learning the mother tongue, for example: reading together, help with their homework, conversation about learning mother tongue at school, have greater achievements in reading and writing.
	Achievements on the test in mathematics	<ul style="list-style-type: none"> » The results on the test in mathematics are lower (the average score is 37%) than the expected basic results prescribed in the mathematics curriculum, until the end of the second cycle. » The best achievements are in the domain of numbers, and the worst in solving textual tasks and problems. » The Roma students have statistically significant lower achievements than the other students (by 21 percentage points in the average test score). » The solving of textual tasks is significantly lower compared with the tasks given only by numbers or graphically. » The students of parents with completed more than primary education and that speak the language of instruction at home, have greater achievements; though not many Roma students fall in that group.

Recommendations

The abovementioned findings, in addition to being used for monitoring of the effects of the activities undertaken during the realization of the Programme, should also be used for planning and more successful realization of the programme activities. The recommendations were generated having this in mind. The recommendations are arranged according to the domains of the school's inclusiveness. The majority of the recommendations apply to the seven schools included in the Programme, as well as to the institutions that provide support.

Teaching plans and curricula

- The school staff should be trained in teams, which will be later responsible for developing educational plans for the marginalized students, as well as for realization of those plans and for monitoring the realization. In the schools with segregated classes composed of only Roma students, it is necessary to change the views of the parents that lead to segregation and larger integration should be ensured.

Students' achievements

- The schools, in cooperation with the parents and the local community, should improve the coverage and participation of all students, particularly of Roma students, where the problem is most evident. Within this activity, the schools should cooperate with the kindergartens and the ECD centres, supported by UNICEF.
- The schools' management teams, in cooperation with the advisers from the Bureau for Education Development (BED) and the Inspectors from the State Education Inspectorate (SEI), should work on changing the views as regards the opportunities and the responsibility of the school to obtain greater motivation and engagement of the Roma students, as well as greater achievements.
- The teachers should be trained in using strategies that will assist the students in building a flexible model of thinking, i.e. to experience success when they make an effort, as well as learning experiences where mistakes will be used as an opportunity to learn.

- In-depth analyses should be done at the school level with reference to the students' achievements according to social background, ethnicity, language that the students speak at home, and similar, and some activities should be undertaken accordingly, in order to increase the school's support and influence on the students' achievements.

Learning and teaching

- The BED advisers, together with the teachers from the pilot-schools, should analyze the test results on reading, writing and mathematics achievements. They should also assist the subject teachers' expert bodies in finding teaching approaches within the programmes Language literacy in the early grades, Thinking Mathematics and Cambridge Mathematics Programme, which will be adapted for teaching Roma students.
- Additional support should be organized for the Roma students who are not fluent in the language of instruction, at the time of their enrollment in the first grade, in order to improve their knowledge. The grade teachers should be trained in providing such support. In these activities, the schools should connect and cooperate with the kindergartens and the ECD centres.
- The teachers, together with the support staff, should draft strategies on differentiated instruction and work as teams on their realization (for e.g. by sharing experiences, exchange of teachings materials and similar.)
- Formative assessment should be improved, particularly of students with special educational needs. The grade teachers should be trained in formative assessment.

Supporting the students

- Strategies for peer support in learning should be introduced in the schools.
- The schools should connect with the local community, civil society organizations and similar, so as to obtain material support for the students and means for out-of-school activities.

School climate and relationships within the school

- The schools should be organized in a network of inclusive schools which will be used as a platform for mutual exchange of experiences, support and will be model-schools for other similar schools.
- The schools should provide inclusion of students from socially vulnerable groups in the extracurricular activities and in the student community.
- The school staff should be trained in collaborating with parents, particularly those belonging to socially vulnerable groups. The programmes for parent counselling are already regulated by law and introduced into the primary education system and as regards the counselling of the Roma students, they should be more flexible, as opposed to the current practice by the BED and SEI that is focused on formal realization of this counselling.

Resources

- The Ministry of Education and Science (MoES) and the municipalities should ensure availability of defectologists and social workers in the schools that have many students with special educational needs.
- The schools should strengthen peer learning and support, as a method to increase the competences of teachers for working with socially vulnerable groups of students.

Administration, management and policy creation

- School inclusion teams should be established in the schools. They will build mutual understanding for the special needs of the students and they will plan, direct and monitor the entire work in connection with increasing the inclusiveness of the schools, particularly the inclusion of vulnerable groups, including the Roma students.

PART I

BACKGROUND INFORMATION

This part contains basic information about the Programme *Inclusive Education for the most marginalized children* and the activities that were carried out in the period March - November 2014.

The former Yugoslav Republic of Macedonia is still dealing with the challenges in the educational system related to the inclusion of the most marginalized group of children⁴ and in response providing opportunities to them to learn and acquire applicable knowledge of the 21-st century.

During the previous period, UNICEF has supported programmes to help the Government in dealing with these challenges by strengthening the inclusiveness of the education system and improving mathematical and language literacy in the early grades - as basic foundations for learning and teaching of all children. Two programmes were supported since 2009 (Thinking Mathematics and Language Literacy in the early grades) for the professional development of the teaching staff so the teachers could understand the principles of quality teaching and learning mathematics and language. Moreover, the programmes support the teachers in applying the newly acquired knowledge to enable the students within their classes acquire basic mathematical and language literacy, as well as to obtain greater

.....
4 Only 10% of the children with special educational needs (UNICEF, 2010-The Assessments of the inclusiveness of the education system) and 63% of the Roma children. (UNICEF, 2011 - The Right of Roma Children to Education: Position Paper. Geneva: UNICEF Regional Office for Central and Eastern Europe and the Commonwealth of Independent States (CEECIS) are included in primary education).

students' achievements in the early grades in mathematics and language as a basis for advanced quality learning and achievement of greater results.

Both programmes are directed towards the provision of quality teaching of mathematics and language literacy for all children in the country and they are part of the package for effective teacher professional development. Baseline studies and progress studies at the end of the first cycle were conducted and they showed a statistically significant improvement of students' achievements in the project-schools (in which trained teachers worked with the children) compared to the control-schools (schools in which the teachers were not trained). The progress studies showed differences in the achievements between the different groups of students and they confirmed the need to introduce teaching techniques and strategies in the work, which will support the learning process of the at-risk children and the children from the marginalized groups, particularly the Roma students.

The latest studies of the education of Roma children indicate the following:

- The majority of Roma children speak the Roma language at home and do not attend any preschool institutions. In 2010, only 36% of the Roma students attended a preschool institution in the year before starting the first grade⁵. They are included in primary education with a limited knowledge of the language of instruction (96.9 % of the Roma students who attend primary school are in schools/classes where Macedonian language is the language of instruction.⁶).
- There are limited opportunities for integration as more than 23% of the Roma children attend schools in which schoolmates are mainly Roma or they are in segregated classes - segregated schools⁷.
- The national mathematics and mother tongue assessments of students in the fourth and eighth grade showed that the students whose parents have higher level of education achieve greater results in both subjects, and in most cases they are related to the mother's level of education. On the other hand, in the former Yugoslav Republic of Macedonia, almost 50% of the Roma population between 25 and 64 years of age have stated that they

5 UNICEF Multi-indicator Cluster Survey (2011)

6 According to Roma Education in Comparative Perspective, UNDP/World bank/EK regional Roma survey report (2012), 66% of the children 0-6 years speak the Roma language at home

7 Roma Education in Comparative Perspective, UNDP/World bank/EK Regional Roma survey report, (2012)

have no formal education or they have completed only the ISCED level 18. The people in this age group are either the parents or the grandparents of the Roma students in primary education.

- The Roma students have lower academic self-concept and lower expectations as regards their future profession compared to the students of Macedonian ethnicity.⁹

The abovementioned leads to the conclusion that the teacher is an essential factor for better education of the Roma students, particularly for early literacy and acquiring language and mathematical skills. However, according to the findings in the Roma Early Childhood Inclusion - Macedonian Report (2011):¹⁰

- The teachers are not trained for assisting children in mastering language skills;
- The teachers have low expectations regarding the achievements of Roma students, and they do not use or use to limited extent interactive and differentiated instruction;
- Among the teachers, there is a low level of awareness and knowledge about Roma culture and tradition and their characteristics.

It is also concluded that there are no adapted sources of learning. The teachers themselves are trying to adapt the tasks and activities so they can be adequate to the students' abilities and prior knowledge; though these materials are not shared with the other teachers.

8 Roma Education in Comparative Perspective, UNDP/World bank/EK Regional Roma survey report, (2012)

9 Kolozova K., Mickovska G., Cheshlarov M., unpublished report – *Research on the education of Roma students in 10 schools included in the activities for supporting the Roma in Macedonia*

10 Eminova E., Janeva N., Petroska-Beška V., Bennett J., *Roma Early Childhood Inclusion – Macedonian Report*, (2011), Open Society Foundation London, Roma Education Found Budapest, UNICEF Geneva

1. SCHOOLS INCLUDED IN THE PROGRAMME

As it was already mentioned, the Programme implemented in seven primary schools, i.e. one school in seven municipalities. These are schools with significant number of Roma students and a nearby ECD centre, established with UNICEF support. The information on the basic characteristics of these schools is given below.

TABLE 1. *Schools according to the language of instruction, city and number of students*

SCHOOL	CITY	LANGUAGE OF INSTRUCTION	TOTAL NUMBER OF STUDENTS	% OF ROMA STUDENTS
Gjorgji Sugarev	Bitola	Macedonian	597	68 %
Edinstvo-Bashkimi-Birlık	Gostivar	Macedonian - Albanian-Turkish	1331 (314*)	19 %** (80 %***)
11 Oktomvri	Kumanovo	Macedonian	572	21 %
Dobre Jovanovski	Prilep	Macedonian	1119	76 %
Brakja Ramiz i Hamid	Skopje	Macedonian	2097	97 %
Naim Frasherı	Tetovo	Albanian	1610	0,5 % ¹¹
Dimitar Vlahov	Shtip	Macedonian	950	10 %

*The number of students that attend school in Macedonian language of instruction in the school is 314. The Roma students are in the classes in Macedonian language of instruction.

**Percentage of Roma students in relation to the total number of students in the school.

***Percentage of Roma students in relation to the number of students who attend classes in Macedonian language of instruction.

The studies show that the socio-economic status of the parents has significant influence on students' achievements in the early grades, particularly the level of education of the mother. Therefore, we have collected data for all students in these schools that in March 2014¹² were in the first, third and in the sixth grade and they were foreseen to be the target group for the measurements in the Programme.

11 The comma in enrollment values in decimal numbers in tables and graphs in this report has the same meaning as the decimal point.

12 The realization of the Programme began in March 2014.

FIRST GRADE - because it is the grade when students enter a new environment, and the Roma students encounter a new language as the language of instruction.

THIRD GRADE because it is the completion of the first cycle of primary education when the student should acquire basic mathematical and language skills and knowledge.

SIXTH GRADE – because it is the first grade of transition of the student from grade to subject teaching and the beginning is very important for the students' future education.

The data on the socio-economic status of the parents of all students in the first, third and in the sixth grade in the schools are shown in the table below.

TABLE 2. *Percentage of students by ethnicity, by the education and the employment status of the mothers and fathers*

CHARACTERISTIC	MOTHERS			FATHERS		
	R	M	A	R	M	A
No education	39,1 %	/	/	30,1 %	/	/
Completed fourth grade of primary school	34,6 %	/	/	37 %	/	/
Completed primary school	20,4 %	/	68,9 %	26 %	/	68 %
Completed secondary education	8 %	73,6 %	20 %	7 %	76 %	33 %
More than secondary education	/	17,3 %	8 %	/	16,1 %	18,2 %
Unemployed	46 %	5 %	42 %	65 %	7 %	22 %

R- Roma ethnicity; M-Macedonian ethnicity; A-Albanian ethnicity

From the data on the socio-economic situation of the Roma students, for each specific school, it was concluded¹³ that:

- ♦ in one of the seven schools, the percentage of Roma students whose mothers have no education (illiterate) is 66%, and the percentage of fathers with no education is 50%;
- ♦ in every school, the percentage of Roma students whose mothers are unemployed is large and goes from 82% to 100%; and

13 Aleksova A., MSc, Ilievski.I., Dimeski B., unpublished report, UNICEF Programme for inclusive education of marginalized children: General Statistics report, MCEC, Skopje (2014).

- ♦ the percentage of Roma students whose fathers are unemployed goes from 47% to 88%.

The schools are specific according to the number of students who need greater and specific support in learning. In March 2014, we have collected data both on the number of students with special educational needs and on the number of students with physical and intellectual disabilities from every school, bearing in mind the OECD operational definition¹⁴.

The data by classes and ethnicity are given below, in tables 3 and 4.

TABLE 3. *Number of students with special educational needs (special educational needs mean needs that are a result of the differences in the psycho-physical abilities, ethnicity, culture, mother tongue, religion, social and economic status)*

School*	I	II	III	IV	V	VI	VII	VIII	IX	BK**
Dimitar Vlahov	/	1(M***)	/	/	/	1(P)	/	/	/	2 (0,2 %)
Naim Frasheri	3(A) 1(P)	/	1(A) 1(P)	/	3(A) 1(P)	/	/	/	/	10 (0,6 %)
Edinstvo-Bashkimi-Birlik	/	/	1(M)	1(M)	1(P)	1(A)	/	/	1(M)	5 (0,5 %)
11 Oktomvri	4(M) 5(P) 1(C)	1(M) 3(P)	2(M), 4(P) 1(C)	1(M) 1(P)	2(M) 5(P)	5(M) 5(P) 2(C)	11(M) 1(P) 4(C)	8(M) 4(C)	3(M) 1(C)	74 (17 %)
Dobre Jovanovski	5(P)	10(P)	16(P)	8(P)	1(P)	1(M) 2(P)	/	1(M) 2(P)	2(M)	49 (4 %)
Brakja Ramiz i Hamid	17(P)	1(M) 14(P)	18(P)	15(P)	14(P)	18(P)	17(P)	19(P)	16(P)	149 (7 %)

*The school Gjorgji Sugarev stated that they do not have students with special educational needs.

**The percentage in the parenthesis is the percentage of students in relation to the total number of students in the school.

***The letter in the parenthesis marks the ethnicity: A-Albanian, M-Macedonian, R-Roma and S-Serbian.

14 The operational definition of OECD covers the following categories: A: special educational needs resulting from intellectual or physical developmental disability; B: learning difficulties due to socio-emotional and behavioural causes; and C: special educational needs due to education disadvantages arising from socio-economic, cultural, and/or linguistic factors.

TABLE 4. Number of students with physical or intellectual disabilities (children for whom the schools have a medical note: intellectual disability, students with visual impairment, students with hearing impairment, with physical disability, speech impairments, autism and autistic disorders, as well as students with combined developmental disabilities)

School*	I	II	III	IV	V	VI	VII	VIII	IX	BK**
Dimitar Vlahov	/	1(M***)	/	/	/	1(R)	/	/	/	2 (0,2 %)
Naim Frasher	/	/	2(A)	/	2(A)	/	/	/	/	4 (0,2 %)
Edinstvo-Bashkimi-Birlik	/	/	1(M)	1(M)	1(R)	1(M) 1(A)	/	1(M)	/	6 (0,6 %)
11 Oktomvri	/	1(R)	1(M) 2(R) 1(S)	/	1(R) 1(S)	/	1(M)	/	/	8 (1,8 %)
Dobre Jovanovski	3(M) 1(R)	1(M)	1(R)	1(M) 2(R)	2(M)	2(M) 2(R)	2(R)	1(M)	/	18 (1,6 %)
Brakja Ramizi Hamid	11(R)	9(R)	15(R)	15(R)	16(R)	13(R)	9(R)	18(R)	10(R)	116 (5,5 %)

*The school Gjorgji Sugarev stated that they do not have students with physical or intellectual disabilities. This school has separate classes with children with physical or intellectual disabilities.

**The percentage in the parenthesis is the percentage of students in relation to the total number of students in the school.

***The letter in the parenthesis marks the ethnicity: A-Albanian, M-Macedonian, R-Roma and S-Serbian.

Considering the fact that the goal of the programme is to have greater inclusion and achievement of better results among all students, these schools should make efforts to provide a better general climate for learning and for achieving better results. They should pay particular attention to the students coming from disadvantaged background– particularly to the Roma students, and to the other students with special educational needs. The school and the teachers should make up for the lack of support of these students due to their parents' low level of education and inability to provide a stimulative home learning environment.

2. TRAININGS AND DISSEMINATION OF TRAININGS

Based on the findings in the studies regarding the necessary knowledge and skills of the teachers who work in the schools with many students from disadvantaged background, and the findings on the situation in the schools, a training programme was prepared for the school staff, included in the Programme.

Bearing in mind the responsibilities of all the concerned parties, the following participants took part in the trainings: the school principals and the expert staff, the early grade teachers and the subject teachers of mother tongue and mathematics, BED advisers tasked with monitoring and support in the schools, inspectors from the SEI who are working in the municipalities of the pilot schools are, MoES representatives with particular responsibilities in inclusive education. The trainings were organized in a cascade manner, and mainly international consultants were engaged to train the selected school representatives, who afterwards disseminated the training within their own schools. In total, 316 participants took part in the trainings with the international consultants, and 879 teachers took part in the dissemination within the schools.

The first training/meeting was organized **in March 2014**, which included the school representatives, the local self-government, the BED, SEI and the MoES. During the meeting, the participants were informed about the starting points, objectives and expected results of the Programme: Inclusive education – education of Roma children and children with special needs in Macedonia as part of the Regional project financed by the Austrian Development Agency (Nora Shabani – UNICEF Education Specialist). Prior to the start of the discussion regarding the situation in the domain of education of marginalized groups and the need for this type of project, the participants were informed about the activities and their objectives which were planned to be realized in 2014 (Anica Aleksova – Manager of the UNICEF supported programme in the MCEC).

The training conducted by the international consultant Prof.Dr. Judith Hollenweger was held **in June 2014** and it focused on inclusive education: Creating a Foundation – Learning about Concepts. During the training, through presentations, discussions and exercises, the participants were introduced to inclusive education with the purpose of acquiring a common understanding and definition of the same; the meaning and the “knowledge” of the “inclusive

teacher”; the most important dimensions of student diversity, valuing and the importance for all students to be supported by the teacher, the school and the broader community. The training was founded on the assumption that inclusive education should be understood as a process as part of which the teachers have the largest contribution, but is also influenced by the local community and the educational system.

In August, 2014 the consultant Prof.Dr. Judith Hollenweger worked with the participants on: Working with others – Finding a common language – becoming a team, on their understanding of the importance of communication, collaboration and participation, which was followed by the introduction of the participants to the ICF-CY¹⁵ and its importance for inclusion of children. The participants were introduced to the meaning, composition, opportunities and the activities of the school inclusion team.

The topic of the training **in October, 2015** again conducted by Prof.Dr. Judith Hollenweger, was: Supporting all learners – Planning together and implementing together. During this training, the participants worked on creating effective goals, on adapting situations to learners’ requirements and developing tools to support all learners.

Between the training in June and the training in August, the schools had the task to create a draft school plan for inclusion, and between the training in August and the training in October, they had the task to establish a school inclusion team.

The topic of the training **in November, 2014** was: First and second language acquisition – Ethnic and linguistic diversity in the classroom, which was conducted by the international consultant Dr. Edina Krompæk. The training activities were directed towards teaching the language of instruction, valuing the first language (language different than the language of instruction) and supporting the students of different linguistic background in language learning.

From the end of August until mid-December, 2014 the school representatives who took part in the trainings with the international consultants, conducted trainings on the same topics within their schools and took on the role of school trainers. According to the reports on the school trainings, the school pedagogue, psychologist or special education teacher were the trainers, and all grade teachers and some of the subject teachers were trained, the teachers of mother tongue and mathematics were always included.

15 International Classification of Functioning, Disability and Health, World Health Organization Geneva: WHO

By **September 2014**, school inclusion teams were established in every school. The total number of school inclusion team members in the seven schools was 52 teachers, school expert staff and the school principal. The number of school team members varies and it goes from 4 to 12.

By the end of August, the schools drafted the initial versions of the School Inclusion Plan which covered and worked out the following segments:

- our school (description of the school: where it's located, size, structure according to the socio-economic status of the students, working conditions – area and equipment, teaching and other personnel in the school, students by classes and by grades, by language of instruction, by ethnicity; vision and mission of the school);
- we and the local community (information on the current collaboration of the school and the local community: local self-government, non-governmental sector, other institutions/centres at local level, related to inclusive education – education of Roma children, the children with learning difficulties, the children with special educational needs; and opportunities/needs for further collaboration);
- we and the inclusive education (the school's vision on inclusive education, preparedness/competence of the teaching personnel and professional development needs related to inclusive education);
- plan of activities for the 2014/2015 school year (description of the activity, objective of the activity, specific tasks for the realization of the objective, responsible / organizer of every activity, expected results from the realization of the activity and the time period when it will be realized).

PART II

METHODOLOGY

This part contains a short description of the used methodology in the baseline study, i.e.: information on the objectives of the study, the conceptual framework, indicators of the study, used instruments, sample, collection, processing and data analysis.

With the purpose of obtaining valid, evidence-based findings which will be the basis for monitoring the quality of the application of inclusive approaches in teaching, for the schools included in the realization of the Programme, as well as their effects expressed through the students' achievements, the methodological approach to the baseline study was based on the following principles:

1. Focus on the need for providing information related to the evaluation of the project objectives and the influence of the project activities;
2. Providing data that could be used for the planning and organizing of further project activities;
3. Providing a basis for continuous monitoring and support of the realization of the activities in the Programme;
4. Opportunity for repeating in the subsequent measurements; and
5. Rationality in terms of time period, included human resources and means.

A quantitative and a qualitative approach were used in the study, in addition to adequate instruments.

1. OBJECTIVES OF THE STUDY

The realization of the study was prior to the start of the intensive trainings in inclusive education for the early grade teachers and the members of the school inclusion teams in the seven schools included in this Programme. Bearing in mind the objective of the Programme: *to raise the level of inclusiveness of the entire school and knowledge and skills of the teachers for inclusive teaching practices, in order to improve the achievements of all students, particularly of the Roma students, in reading, writing and mathematics*, the intention of this study is to provide relevant information about the initial state, which will serve as a basis for measuring the influence of the programme – quality teaching and greater achievements of all students.

The objectives of this study were:

1. To provide information about the inclusiveness of the schools.
2. To provide information about the educational staff understanding of students with special educational needs.
3. To provide information about the training and competences of the teachers for working with students with special educational needs.
4. To provide information about the teachers' understanding of the nature of abilities and how it is related to the students' achievements.
5. To provide information about the perception and experiences of the schools' employees concerning the interest of the parents of Roma students in their children's learning.
6. To provide information about the students' achievements at the end of the first cycle and at the end of the second cycle in primary education on questions and tasks of reading comprehension and writing as well as some socio-cultural factors which are related to these achievements.
7. To provide information about the students' achievements at the end of the first cycle and at the end of the second cycle in primary education on mathematical tasks and some socio-cultural factors which are related to these achievements.

2. CONCEPTUAL FRAMEWORK

The study of the effects of the programme *Inclusive education for vulnerable groups* within these schools is planned to be conducted as “ex post facto experiment”, i.e. by way of comparing the situations before and after the activities, the changes in the included schools are measured during a specific time period, or more specifically:

- (1) At the beginning of the Programme, by measuring the initial state of the relevant factors which could influence the students’ achievements (independent variables) and the students’ achievements in reading, writing and mathematics by emphasizing the differences in the achievements of the Roma students and students of the other ethnicities;
- (2) The programme activities will be realized in the period of three years (one educational cycle);
- (3) At the end of one educational cycle, the measurement will be conducted again and the differences in the achievements between the two measurements among the Roma students and among the students of other ethnicities will be emphasized. During the repeated measurement, the independent variables will be measured with the aim of controlling the potential changes among them.

In the baseline study, the following group of factors, which are considered to have significant influence on the students’ achievements, were taken into account:

FACTORS RELATED TO THE TEACHER

- Understanding the specific educational needs of the students, particularly of Roma students, by the teachers;
- Self-assessment of the teachers on the competence for inclusive education;
- The mindset, i.e. understanding the nature of abilities as fixed or flexible category;
- Training of the teachers in inclusive education.

FACTORS RELATED TO THE SOCIO-ECONOMIC ENVIRONMENT

- Education of the parents;
- Employment of the parents;
- Interest of the parents of the Roma students in their children's learning;
- Habits at home related to reading and writing and to learning mathematics;
- Prior knowledge of the students related to reading, writing and learning mathematics before starting first grade;
- Language which is predominantly used at home.

FACTORS RELATED TO THE SCHOOL ENVIRONMENT

- Understanding the special educational needs of the students, particularly of Roma students, by the school principals and the support staff in the schools;
- Support that the teachers expect from the other educational staff in the school;
- Self-assessment of the school's inclusiveness.

3. INDICATORS

Based on the programme objectives and activities, the following indicators were measured in this study:

INDICATOR 1 – Understanding of inclusive education and the inclusive practices by teachers

- Understanding the meaning of the term - students with special educational needs and identification of different types of special educational needs;
- Identification of special educational needs of the Roma students;
- Catering to the special educational needs;
- Training and competence of the teachers for inclusive education;
- Understanding the different factors of successful learning and the abilities as fixed or flexible category.

INDICATOR 2 – Understanding of inclusive education by the other educational personnel and the inclusiveness of the school as a whole

- Understanding the meaning of the term - students with special educational needs by the school principals and the support staff;
- Inclusion of Roma students and identification of their special educational needs;
- Inclusive policies and practices at the level of the school.

INDICATOR 3 – Students' achievements at the end of the first cycle of primary education

- The students' achievements on a test in reading comprehension and on a test in writing, which include questions for measuring the understanding of the text, vocabulary, decoding and word analysis, as well as phonological awareness, use of orthography and needed lexis;
- The students' achievements on a test in mathematics, which contains tasks that measure the conceptual and procedural knowledge, understanding and using of natural numbers, the four basic operations and their properties, as well as solving of textual tasks and problems.

INDICATOR 4 – Students’ achievements at the end of the second cycle of primary education

- The students’ achievements on a test in reading comprehension and on a test in writing, which include questions for measuring the understanding of the text, drawing explicit and implicit information, understanding of characters and actions in the text, detecting the context, recognizing the different genres, as well as the application of the standard linguistic norms in the different types of written expression;
- The students’ achievements on a test in mathematics, which contains tasks that measure the conceptual and procedural knowledge, understanding and application of numbers (positive integers, fractions and decimal numbers), the four arithmetic operations and their properties, as well as solving textual tasks and problems.

4. METHODS AND INSTRUMENTS FOR DATA COLLECTION

In accordance with the defined indicators, different methods and adequate instruments for data collection were used in this study. Parts of the data were collected from many different sources of information (respondents) and by using many different instruments.

4.1. METHODS FOR DATA COLLECTION

TEACHER SURVEY

All data that referred to Indicator 1 – understanding of inclusive education and the inclusive practices of the teachers, were collected using a teacher survey with questionnaires, which were prepared in advance, for the teachers in the first grade, the teachers in the third/forth grade and the teachers that in the sixth/seventh grade, taught the subjects of Macedonian language, Albanian language, Macedonian language to the classes where Albanian is the language of instruction and mathematics. The survey lasted for about 30 minutes.

SURVEY OF SCHOOL PRINCIPALS

Part of the data for Indicator 2, which refer to the understanding of inclusive education by the school principals, as well as the inclusive policies and practices of the school, were collected using a questionnaire for the school principals. The survey lasted for about 30 minutes.

The school principals, in cooperation with the support staff, gave replies to the self-assessment questionnaire on the school's inclusiveness, i.e. the inclusive policies and practices of the school (part of Indicator 2). The assessment was made on a 4-degree scale.

DISCUSSION IN THE FOCUS GROUP WITH THE SUPPORT STAFF

The understanding, views and opinions of the support staff on inclusive education and the practices of their schools (part of the data for Indicator 2) were examined by a discussion in a focus group. The discussion was divided in two 60-minutes periods.

TESTING OF STUDENTS

The data related to Indicator 3 and to Indicator 4 were collected using tests in reading comprehension, tests in writing and test in mathematics. The tests referred to knowledge and skills acquired by the end of the third, i.e. the sixth grade. The tests in mathematics lasted 45 minutes. The tasks in reading and writing were in two test-booklets and two periods of 45 minutes were needed for answering the tests that were administered in two consecutive days.

SURVEY OF THE STUDENTS

A students' questionnaire was used to collect data on the factors of the socio-cultural environment of the students, which could influence their achievements. The survey of the students was conducted at the end of the second day of testing, for about 5–10 minutes.

COLLECTING DATA FOR SCHOOL

The data on the size of the school, the number of students according to ethnicity and educational structure of the parents were collected using a special form.

4.2. DATA COLLECTION INSTRUMENTS

The table below shows, in detail, the contents of each instrument used to collect the data on the initial state of the Programme.

TABLE 5. *Description of the instruments used in the study*

INSTRUMENT	SHORT DESCRIPTION
<p>QUESTIONNAIRE FOR THE TEACHERS</p>	<p>The questionnaire for the teachers in the first and the third/forth grade consisted of 18 questions with offered or open-ended answers and a scale of attitudes.</p> <ul style="list-style-type: none"> ▶ Five questions which referred to the understanding of special educational needs, their identification and catering to those needs. ▶ Seven questions which referred to the Roma students and their educational needs. ▶ Three questions which referred to the trainings that are relevant to working with students with special educational needs. ▶ Two cluster questions referred to the competence of the teachers to work with students with special educational needs. The questions were required to assess the level of aptitude for working with different groups of students or whether they possess the given competences. ▶ One question referred to the factors for successful learning. ▶ The scale for examining the understanding of the nature of abilities and the connection to learning contained 20 statements (19 remained after the psychometric analysis in processing). For each of them it was required to indicate the degree of agreement on a 4-degree scale. <p>The questionnaire for the teachers in the sixth/seventh grade, in addition to the abovementioned questions, contained 4 additional questions on identification and one question related to the specific trainings in the teaching subject.</p>

INSTRUMENT	SHORT DESCRIPTION
QUESTIONNAIRE FOR THE SCHOOL PRINCIPALS	<p>The questionnaire for the school principals contained 12 questions with offered or open-ended answers and had a similar content as the questionnaire for teachers, but it was related to the circumstances at school level.</p> <ul style="list-style-type: none"> ▶ Five questions referred to the understanding of special educational needs, their identification and catering to those needs, at school level. ▶ Four questions referred to the Roma students and their educational needs. ▶ Two questions referred to the preparedness and motivation of the teachers and the support staff for working with students with special educational needs. ▶ One question referred to the factors for successful learning.
DIRECTIONS FOR THE DISCUSSION OF THE FOCUS GROUP OF THE SUPPORT STAFF	<p>Directions were drafted for the discussion leaders in the focus group, and they referred to:</p> <ul style="list-style-type: none"> ▶ The objective of the discussion ▶ The organization and leading of the discussion ▶ Questions for discussion – a list of 14 questions was provided and they referred to: identification and support for the students with special educational needs, particularly of Roma students, the factors that facilitate or impede the process of working with them at the school, the educational expectations from the Roma students, activities which could be undertaken so as to improve their position. ▶ Directions for analysis of the data and for writing the report.
QUESTIONNAIRE FOR SELF-ASSESSMENT ON INCLUSION	<p>The questionnaire consisted of a list of 127 indicators of inclusive practice in the school, grouped in the following 7 domains¹⁶: Teaching plans and curricula; Students' achievements; Learning and teaching; Supporting the students; School climate and relationships in the school; Resources and Administration, management and policy creation. The degree of presence of each indicator in the school was indicated on a 4-degree scale.</p>

¹⁶ The domains are identical to the ones in the Indicators for integral evaluation of the schools, which are used by the State Education Inspectorate.

INSTRUMENT	SHORT DESCRIPTION
<p>TEST IN READING AND WRITING FOR THE FIRST CYCLE</p>	<p>The test consists of 6 tasks (24 requirements) which measure knowledge and abilities in: Reading – 4 tasks (13 requirements) and Writing - 2 tasks (11 requirements). The test was structured in two parts:</p> <ol style="list-style-type: none"> 1. TEST IN READING 2. TEST IN WRITING. <p>13 requirements were multiple-choice, 2 were with short answers and 2 open-ended tasks which required explanation of the opinion or the attitudes of the students and one essay-type task (writing a brief composition upon given words).</p>
<p>TEST IN READING AND WRITING FOR THE SECOND CYCLE</p>	<p>The test consists of 7 tasks (47 requirements) which measure knowledge and abilities in: Reading – 4 tasks (30 requirements) and Writing - 3 tasks (17 requirements). The test was structured in two parts:</p> <ol style="list-style-type: none"> 1. TEST IN READING 2. TEST IN WRITING. <p>16 requirements were multiple choice, 8 were with short answers, 5 open-ended tasks which required explanation of the opinion or the attitudes of the students and 3 essay-type tasks (writing a text with given directions: number of words; offered text for description; started text; offered words adequate to the topic).</p>
<p>TEST IN MATHEMATICS FOR THE FIRST CYCLE</p>	<p>The test for students consists of 19 tasks in total, which measure the knowledge and abilities in the domain of: Number concept – 5 tasks; Operations (addition, subtraction, multiplication and division) and properties of the operations – 10 tasks; and Problem situations which include operations, models and data processing – 4 tasks.</p> <p>9 tasks were multiple choice, 6 tasks were with short answer and 4 open-ended tasks which required the complete procedure and solution.</p>

INSTRUMENT	SHORT DESCRIPTION
<p>TEST IN MATHEMATICS FOR THE SECOND CYCLE</p>	<p>The test for students consists of 26 requirements in total, distributed into 13 tasks which measure the knowledge and abilities in the domain of: Number concept – 4 tasks/ requirements; Operations (addition, subtraction, multiplication and division) and properties of the operations – 5 tasks (13 requirements); and Problem situations which include operations, models and data processing – 4 tasks (7 requirements).</p> <p>6 requirements were multiple choice, 8 requirements were with short answer and 12 open-ended tasks which required the complete procedure or explanation of the solution.</p>
<p>QUESTIONNAIRE FOR THE STUDENTS IN THE FIRST CYCLE</p>	<p>The questionnaire consisted of 10 questions.</p> <ul style="list-style-type: none"> ▶ Four questions referred to the education and employment of the parents and the number of children in the family. ▶ Two questions referred to the number of books in the family and the support of the family in language learning and mathematics. ▶ Two questions referred to the language spoken within the family and knowledge of the language of instruction (if it's not their mother tongue) ▶ Two questions referred to the prior knowledge of reading and mathematics <p>Technically, the questionnaire was moved at the end of the test in writing.</p>

INSTRUMENT	SHORT DESCRIPTION
QUESTIONNAIRE FOR THE STUDENTS IN THE SECOND CYCLE	<p>The questionnaire consisted of 10 questions and a scale on understanding the nature of abilities and learning.</p> <ul style="list-style-type: none"> ▶ Four questions referred to the education and employment of the parents and the number of children in the family. ▶ Three questions referred to the conditions for learning at home, the number of books in the family and the support of the family in language learning and mathematics. ▶ One question refers to the language which is spoken within the family. ▶ Two questions referred to the grades in Macedonian/ Albanian language and mathematics in the sixth grade. <p>Technically, the questionnaire was moved at the end of the test in writing.</p>
FORM	<p>The form was used to collect the basic statistical data from each school on the number of classes and students, the socio-economic status of the parents, number of teachers and other educational personnel and training of the teachers in inclusive education.</p>

The tests for the first cycle were psychometrically checked and used in the previous study of the programmes on language and mathematical literacy.

The tasks for the second cycle were initially piloted in 6 schools, on 60 students, and then their final version was used for the drafting of the tests.

The tests were psychometrically checked and only the tasks that had good measuring characteristics were included in the processing of the results.

The majority of the collected data on the initial state in the schools are quantitative and enable objective comparisons, and the qualitative data have the primary objective to serve for the planning of interventions at the beginning and in the course of the realization of the programme.

5. SAMPLE

According to the design of the baseline study prior to the realization of the Programme, described in the conceptual framework, all seven schools are included in the study.

5.1. STUDENTS

The measurement of the programme effects refers to the target group consisting of students from the seven schools who have **completed the third grade**, as well as the students who have **completed the sixth grade**. The study, before the start of the Programme, was conducted on the students from the fourth grade and the students from the seventh grade at the beginning of the school year, which was a population closest to the target group and they were expected to have already acquired the knowledge in reading, writing and mathematics foreseen with the curriculum for the third, i.e. the sixth grade.

The sample selection was specific for each school bearing in mind the number of Roma students in the school, where it was crucial:

- that each school sample should contain almost an equal number of students from Roma ethnicity and students from other ethnicity;
- for all tasks in the test to provide at least 200 answers in order to be able to obtain relevant data on the planned processing and analyses.

Therefore, in the schools with a small number of Roma students (Gostivar, Kumanovo, Tetovo and Shtip) every Roma student was tested and the same number of non-Roma students were selected and tested by a random selection of a sample. Within the schools that have a dominant number of Roma students, all non-Roma students were tested and the same number of Roma students were selected and tested by random selection (Bitola and Prilep). In Skopje, there was a random selection of as many students (all Roma) as necessary to obtain the minimum number of answers from the students. In Gostivar, even though the Roma students are only included in classes with Macedonian language of instruction, taking the total number of Roma students in the fourth and in the seventh grade into consideration, the same number of students of Macedonian ethnicity and the same number of students of Albanian ethnicity were selected¹⁷.

¹⁷ For the students of Macedonian ethnicity and of Albanian ethnicity, in the text hereafter, particularly in the part on students' achievements where comparisons are made with the Roma ethnicity, the most commonly used term is - others.

The table below shows the data on the number of students who took the tests.

TABLE 6. *Number of students in the sample for fourth grade and for seventh grade*

NUMBER OF TESTED STUDENTS		TOTAL	ROMA	OTHERS
READING AND WRITING	4-th grade	252	122	130
	7-th grade	249	117	132
MATHEMATICS	4-th grade	259	121	138
	7-th grade	265	126	139

There is an insignificant difference (from 4% to 8%) between the number of Roma students and the other students who took the tests, due to the absence of some Roma students on the days when the testing was conducted.

5.2. TEACHERS

The study included all teachers that during the 2013/14 school year: taught the first grade (43 teachers), taught the third/forth grade (38 teachers) and taught mother tongue and mathematics to the sixth/seventh graders (30 teachers) in the central school building, of the seven schools included in the Programme. The surveyed teachers are a representative sample because 95% of the students in these schools go to the central school building. The data were collected from 111 teachers in total.

5.3. SCHOOL PRINCIPALS AND SUPPORT STAFF

The school principals and some of the school's support staff (pedagogue, psychologist, special education teacher), made up the sample of the school's management team. The study included 7 school principals, 12 members of the support staff within the focus group (5 school pedagogues, 4 school psychologists and 3 special education teachers), as well at least 1 member of the support staff who filled out the form on self-assessment of the school's inclusiveness, together with the school principal.

6. DATA COLLECTION, PROCESSING AND ANALYSIS

6.1. TIMEFRAME OF DATA COLLECTION

The data collection was conducted electronically and by selected advisers from the BED. One-day trainings were organized for the advisers for each data collection. The deadlines for the organization and realization of the discussion in the focus groups, as well as for administering the tests to the students and the questionnaires for the teachers and the school principals were also agreed.

The data collection, apart from the students' testing, was conducted before the dissemination of the trainings in the schools and used the following dynamics:

- The statistical data from the schools were collected from the 5th to the 17th of March. The schools filled out the questionnaire and form, designed for this specific purpose, and submitted it electronically to the MCEC. The data were summarized and the situation report¹⁸ was drafted in April 2014.
- The discussion in the focus group of the school support staff was held on April 28th. The discussion was recorded and a transcript was made, as well as input and analysis of the answers. The report¹⁹ was drafted in May.
- The questionnaire for the school principals was conducted in the period from the 2nd to the 7th of April, by the BDE advisers who were appointed as responsible advisers for the schools. The data were input into a special base, they were processed and analysed and the Survey report was drafted in June²⁰.

18 Aleksova A. Msc, Ilievski.I., Dimeski B., unpublished report, UNICEF Programme for Inclusive Education: General statistics report, MCEC, Skopje (2014).

19 Chonteva Zh.Msc, Trajanova Gligorova J., Aleksova A.Msc, unpublished report, UNICEF Programme for Inclusive Education of marginalized children: Report from the support staff focus-group - MCEC, Skopje (2014).

20 Mickovska G.Msc, Aleksova A. Msc, unpublished report, UNICEF Programme for Inclusive Education of marginalized children: The school principal's views on inclusive education - MCEC, Skopje (2014)..

- In May, the schools answered the electronic questionnaire for Self-assessment of the inclusion of vulnerable groups of students. The data were processed and the adequate report was drafted in June 2014²¹.
- In June, the first grade teachers answered the questionnaire that was used to collect data on their opinions, preparedness and inclusive practices in the first grade. The data were input and processed and the report was drafted in August 2014²².
- The testing of the students from the fourth grade and the ones from the seventh grade was conducted during the last week of October and the first week of November. The survey of the teachers in grade teaching phase and the teachers of mother tongue and mathematics of subject teaching phase, who taught the tested students, was conducted during that same period.

The answers to the open-ended questions in the tests for the students were examined by trained examiners, with experience in grading tests in language and mathematics. Detailed instructions were drafted for the examination of the open-ended questions. The consistency of the examination was assured by the fact that all tests, which were done in a specific language of instruction (Macedonian or Albanian) and on the same subject, were examined by the same examiner.

21 Mickovska G.Msc, Chonteva Zh.Msc, Aleksova A. Msc, unpublished report, UNICEF Programme for Inclusive Education of marginalized children: Report on the self-assessment of the school's inclusiveness - MCEC, Skopje (2014).

22 Mickovska G.Msc, , unpublished report, UNICEF Programme for Inclusive Education of marginalized children: Opinions and inclusive practices of the first grade teachers - MCEC, Skopje (2014).

6.2. DATA PROCESSING

After the collection of the last set of data, the completed instruments and data input were coded. The data were entered into an Excel program and they were processed by using the following statistical programmes:

- ▶ TIA plus programme, used to process the data from the students' tests and from the scales for examining the understanding of the nature of abilities, which were administered to the teachers and the students who completed the sixth grade. The programme provides data on the psychometric characteristics of the tests and the scales of attitudes, the score percentile and the average result on the overall tests and for particular subtests. The programme was used to calculate the scale results and to make a comparison between the results of some subgroups of respondents (according to the relevant variables which were examined and it was expected for them to be related to the students' achievements); and
- ▶ SPSS programme was used to process the answers to the questionnaires for the teachers and for the students, and to calculate the correlations between separate variables.

The quantitative and qualitative data were analysed in relation to the defined indicators, by using topic analysis.

PART III

RESULTS

The part three presents the data obtained through the survey. During the drafting of this part of the report, we used the data and analysis from the partial reports mentioned in Part I - chapter: Timeframe of data collection.

The results are grouped in accordance with the defined indicators and moved to the following chapters.

1. Understanding of inclusive education and inclusive practices of the teachers;
2. Understanding of inclusive education by the other educational personnel and the inclusiveness of the school as a whole;
3. Students' achievements:
 - at the end of the first cycle in reading and writing and in mathematics.
 - at the end of the second cycle in reading and writing and in mathematics.

The data represent a crosscut of the initial state according to the indicators which are relevant for monitoring the effects of the programme in the schools. An emphasis is placed on the inclusion of Roma students, as well as on the comparison between their achievements and the achievements of the other students. They are the indicator of the initial state in the seven schools, but considering the limitations of the sample, it cannot be generalized to the entire population. The data can serve for the subsequent longitudinal

monitoring of the changes which will occur in these schools, and which are related to the activities of the programme *Inclusive education for the most marginalized children*.

1. UNDERSTANDING OF INCLUSIVE EDUCATION AND INCLUSIVE PRACTICES BY THE TEACHERS

The definition of the group of students with special educational needs (SEN) in the laws and policy documents on education in the former Yugoslav Republic of Macedonia is not harmonized with the latest definitions. Even though it is not explicitly defined, it is obvious that some of them²³ understand only the group A of the OECD operational definition which covers the following groups²⁴: “A: special educational needs resulting from intellectual or physical developmental disability”, “B: learning difficulties due to socio-emotional and behavioural causes” and “C: special educational needs due to education disadvantages arising from socio-economic, cultural, and/or linguistic factors”.

It is important for all participants in the education process to have accepted the broad definition of students with special education needs in order to get a starting point for providing educational support to the Roma students who often fall under group C.

To be able to recognize the special educational needs of the different groups of students and to successfully cater to them, the teachers should possess the knowledge and competences to work with them, and also believe that all students can advance. They should take the responsibility and contribute to making the students use their potential and improve their achievements with adequate teaching approaches. Therefore it is important to change the views in the Programme and the teaching practices of the teachers should follow those changes and their effects.

.....
23 “In the country, the Law on primary education and the Law on secondary education use the phrase students with special needs who are included in special education; those are children and youths with visual impairment, hearing impairment, children with physical disability, intellectual disability, behavioural problems, children and youth with autism, as well as children and youths with combined disabilities (multihandicapped)”. <http://bro.gov.mk/?q=mk/obrazovanie-za-deca-so-posebni-potrebi>

24 Students with Disabilities, Learning Difficulties and Disadvantages: Policies, Statistics and Indicators
© OECD 2007, ISBN 978-92-64-02762-6, <http://www.oecd.org/edu/school/40299703.pdf>

The questionnaire for the teachers covered the issue of their current understanding of students with special educational needs and how do the teachers cater to those needs. The questionnaire is presented in the description of instruments given in Part II of this report. The results are shown in relation to the following:

- Understanding the group students with special educational needs (SEN) and identification of the different types of educational needs of the students in their classes;
- The educational needs of the Roma students and the support that the teachers provide to them;
- The support needed for the teachers to better cater to the educational needs of the Roma students;
- Training and competences of the teachers for inclusive education;
- Understanding the different factors for successful learning and the abilities as a fixed or flexible category.

The results are shown quantitatively (as absolute values, percentages and arithmetic means and graphically) and qualitatively (through topic analysis of the content of the answers to the open-ended questions). The answers of all teachers are shown together, and if significant differences²⁵ were present between the teachers who taught first grade, third/forth grade, i.e. sixth/seventh grade, in that case the answers are shown separately for each group of teachers.

²⁵ The differences are considered to be statistically significant if $p > 0.05$.

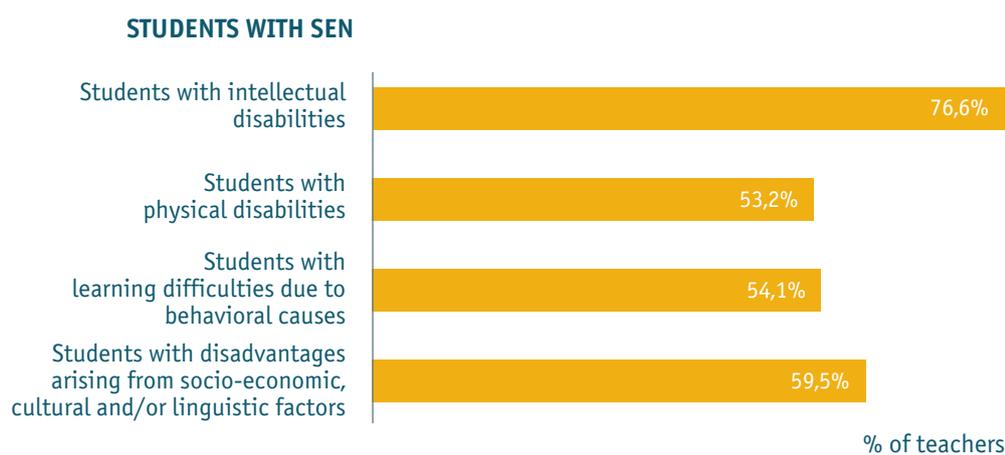
1.1. UNDERSTANDING STUDENTS WITH SPECIAL EDUCATIONAL NEEDS AND IDENTIFICATION OF DIFFERENT TYPES OF EDUCATIONAL NEEDS

METHOD OF MEASURING

Four questions in the Questionnaire for teachers were used to determine how the teachers understand the students with special educational needs and the types of special educational needs they can identify. Three questions were the same for all surveyed teachers, while only the grade teachers were asked the question on the number of students with special educational needs in their classes.

The teachers were asked about what they understand under students with special educational needs, and they had the opportunity to select one or more of the four offered groups of students with special educational needs.²⁶ Their answers are shown in the graph below (multiple answers to the question were possible, and the percentages were calculated in relation to the total number of surveyed teachers – 111).

GRAPH 1. *Students who according to the teachers, are students with special educational needs*



- Less than a quarter (23.4%) of the surveyed teachers believe that all mentioned groups are students with special educational needs, which is adequate to the extensive definition of students with SEN.

²⁶ The answers under 1 and 2 refer to category A of the abovementioned OECD definition, 3 to category B, and 4 to category C.

- Slightly more than half of the teachers (54.9%) have recognized two or rarely three groups of students with special educational needs.
- The teachers do not have many dilemmas about the fact that the students with intellectual difficulties are students with special educational needs. However, considering the fact that there is no inconsistency about this group in the regulation, that these are students with special educational needs, it is surprising to see that almost one fourth of the teachers did not mark this group as students with special educational needs.
- Slightly more than half of the surveyed teachers recognize the other groups of students with special educational needs.

There are no significant differences between the grade and subject teachers in relation to the understanding of students with special educational needs. The answers of the teachers in some schools do not offer specifics related to recognizing the different special educational needs of the students, which would be particular for that school.

The grade teachers were asked to write down how many students with special educational needs are in their class. In the majority (60.3%) of the classes from the first and the third grade, according to the teachers' answers, there are between 1 and 3 students with SEN, and the number of classes with 2 students with SEN is the largest. The detailed insight into the data shows that in different schools, the number of students with SEN in the classes from the first and the third grade is quite different. On the one hand, maybe it is the result of understanding who is a student with SEN, but on the other hand, maybe it is a result of the different number of Roma students in the classes.

TABLE 7. *Number of students with special educational needs in the classes*

NUMBER OF STUDENTS WITH SPECIAL EDUCATIONAL NEEDS IN THE CLASS	0	1	2	3	4	5	6	7	10	TOTAL
Number of classes	4	14	16	11	9	7	5	1	1	68
% of classes	5,9	20,6	23,5	16,2	13,2	10,3	7,4	0,9	0,9	100

Every teacher answered the question about what was meant by special educational needs of their students. According to the answers of the teachers, the special educational needs were mostly arising from causes related to the

socio-economic status of the students' families, the relationships in the family (neglect, incomplete family, lack of interest and similar) and disturbances in the behaviour of the students, concentration and memorizing, followed by cultural and linguistic factors and communication difficulties, as well as intellectual disability. The teachers have noticed the following difficulties, in addition to the abovementioned, among the students: reading difficulties, difficulties to understand, to perform mathematical and logistics tasks.

The teachers were asked to remember all children who were cause for concern during the school year and to indicate the cause²⁷. The most common seven causes are shown in the table below.

TABLE 8. *Causes for concern for specific students*

CAUSE FOR CONCERN	NUMBER OF STUDENTS BY CLASSES		
	First grade	Third grade	Sixth grade
Poverty	75	166	198
Negligence	58	123	121
Reasoning	37	122	115
Educational neglect	73	111	130
Inconsistent attention	84	134	136
Memorizing	52	97	158
Communication difficulties	60	69	62

The first group of causes is related to the situation in the family, and the second group of causes is related to the cognitive functioning and communication. The most common causes for concern related to the family are much more frequent among the Roma student population.

²⁷ The following 14 causes were given as an indication that the students have special educational needs: poverty, negligence, abuse, communication difficulties, hearing, vision, reasoning, emotional sensitivity, educational neglect, inconsistent attention, illness, disabilities, adaptation, memorizing. The list of reasons was taken from Duncan Little and Ingrid Lewis, (2012), *Introductory Guide for trainers, Training Modules on inclusive education for teachers*, UNICEF

CONCLUSION

- ▶ The teachers do not have an equal understanding of students with special educational needs and do not recognize all groups of students with special educational needs.
- ▶ The special educational needs of the students mostly arise from causes related to the socio-economic status and the relationships in their families, followed by the causes related to the cognitive functioning.

1.2. CATERING TO THE SPECIAL EDUCATIONAL NEEDS OF THE STUDENTS

As per the abovementioned indicators in 1.1, it can be concluded that the teachers can identify the difficulties that their students are facing, but they cannot always recognize that those students have special educational needs which the teachers should cater to in a specific way. The following text will provide data on the degree to which the teachers are successful in catering to the special educational needs of the students.

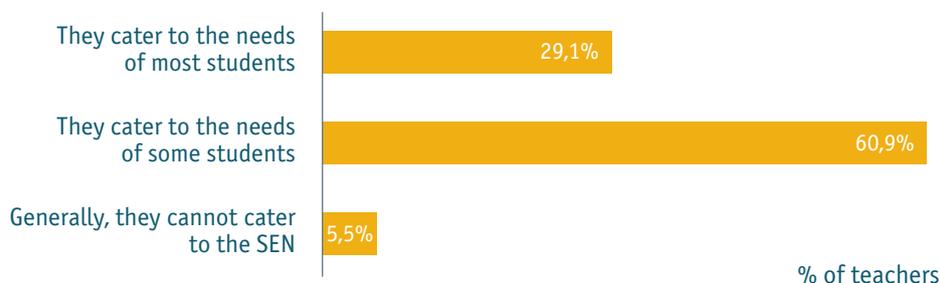
METHOD OF MEASURING

In order to assess the situation related to the support that the teachers provide to the students with special educational needs, they were asked to answer 4 questions that referred to: to what degree they are successful in catering to the educational needs they have identified among the students; to what degree they are trained to work with different groups of students with special educational needs and to what degree they possess the basic professional competences for inclusive education.

Big number of teachers (61%) believed that they can catering to specific educational needs just on small part of the students.

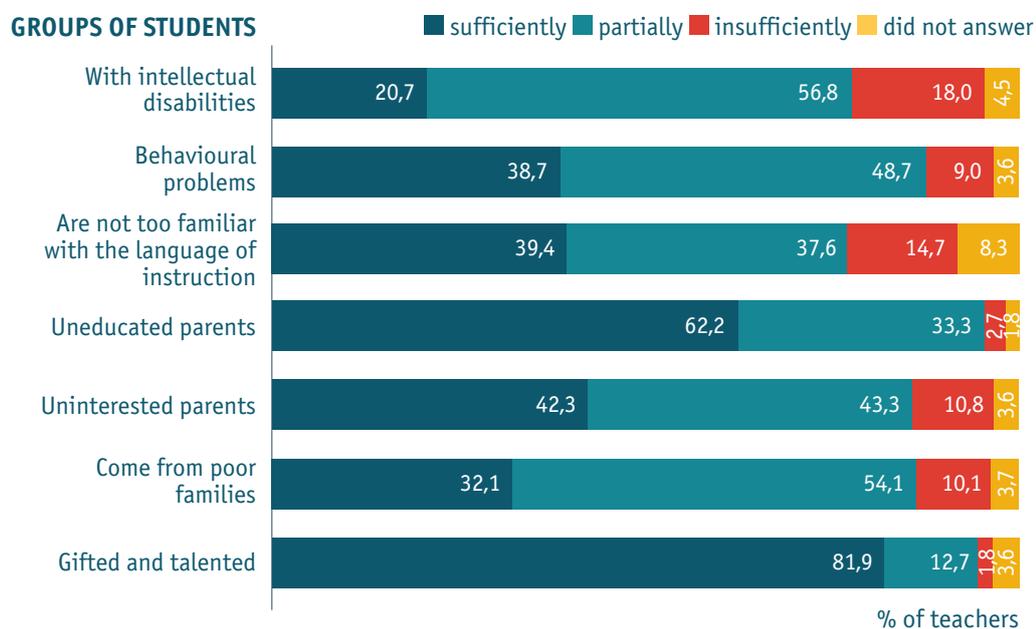
There are no significant differences between the grade and subject teachers regarding the self-assessment of their own abilities to cater to the special educational needs of the students. Almost two thirds of the teachers gave the answer that they do cater to the needs of some students (4.5% of the teachers did not answer that question).

GRAPH 2. *Self-assessment of the teachers for catering to the needs of the students with SEN*



Compared to the answers of the school principals regarding the degree to which the school caters to the special educational needs, the teachers are more self-critical. Their answers are in line with their perception of how trained they are to work with students with different educational needs, which is shown in the graph below.

GRAPH 3. *Self-assessment of the teachers on their training to work with separate groups of students with SEN*



The majority of the teachers believe they are partially or insufficiently trained to work with almost all groups of students who (may) encounter learning difficulties, except with the students who come from families where the parents are barely educated. They feel least trained to work with students with intellectual disabilities, and believe they are mostly trained to work with gifted and talented students. There is no significant difference between the grade

teachers and the subject teachers regarding the self-assessment of their training to work with different groups of students. The first grade teachers, more often than the others, believe that they are not trained to work with students who are not familiar with the language of instruction, and the subject teachers believe that they are barely trained to work with students with behavioural problems²⁸.

The teachers should possess adequate competences to successfully work with the students with special educational needs. In the questionnaire, they were asked to assess to what extent they possess the competences for inclusive education from the Catalogue of basic professional teachers' competences.²⁹

TABLE 9. *Self-assessment of the possession of competences for inclusive education*

COMPETENCE	SUFFICIENTLY %teachers	PARTIALLY % teachers	INSUFFICIENTLY % TEACHERS	DID NOT ANSWER % teachers
Is able to prepare the students to accept the children from vulnerable groups	79,3	15,3	1,8	3,6
Is able to offer equal opportunities to the children for curricular and extracurricular activities	65,8	26,1	5,4	2,7
Is able to use strategies for respecting diversities	61,3	32,4	3,6	2,7
Is able to work in the school inclusion team	40,6	45	10,8	3,6
Is able to draft an IEP for the children with disabilities	29,7	45	21,6	3,6
Is able to use methods for differentiation and individualization	55	41,4	1,8	1,8
Is able to identify the specific educational needs	74,8	21,6	1,8	1,8

28 The statistical significance of the differences is $p = 0.06$.

29 See: *Basic professional teachers' competences – working version*, BED and MCEC, December, 2014

Is familiar with the Convention on the rights of the child and the Convention Against Discrimination in Education	80,2	16,2	2,7	0,9
Is familiar with the causes for SEN of the students	53,2	38,7	4,5	3,6
Understands the influence of the socio-cultural factors on social cohesion	54,1	36,9	8,1	0,9
Is familiar with concepts and models for IE	19,8	53,2	11,7	15,3

More than half of the teachers (see Table 8), answered that they possess all mentioned competences to an acceptable extent, except knowing the different models and concepts for inclusive education and drafting of individual educational plans. They believe they are most competent for preparing the other students to accept the children from vulnerable groups and for identifying the students with special educational needs and believe they are familiar with the Convention on the Rights of the Child and the Convention Against Discrimination in Education.

When comparing the self-assessments of the competences of the grade teachers and the subject teachers, statistically significant differences can be noticed in some specific competences. The subject teachers have assessed that they possess the following competences to a smaller extent:

- He/she understands the influence of social and cultural factors on education and how the education contributes to a social cohesion;
- He/she is familiar with the Convention on the Rights of the Child and the Convention Against Discrimination in Education;
- He/she is familiar with the causes for special educational needs of the students;
- He/she is able to work in the school inclusion team.

The self-assessment of the grade teachers is lower than the one of the subject teachers only in one domain - being able to draft an IEP for the students with disabilities.

It seems that in the self-assessment of the competences, the teachers were more subtle as regards how prepared they are and to what degree they can cater to the different groups of students with special educational needs, in comparison to the answers to the previous questions.

The answers of the teachers, about the extent to which they cater to the special educational needs of their groups of students; about the degree to which they consider themselves competent for inclusive practices, as well as the opinions of the school principals and the support staff³⁰, show that the insufficient training of the teachers is one of the obstacles for not being able to cater to all students with special educational needs.

The majority of the teachers (about 80%) have not attended trainings in inclusive education or in working with students with SEN. Roughly the same number (82%) of teachers are interested in attending such trainings. Those teachers who mentioned the topics of interest, are most interested in: methods for working with students with SEN, working with students with intellectual disabilities, training in collaborating with the parents, and a small number of teachers wanted trainings in working with specific groups of students with SEN or on specific issues related to working with them (children with psycho-physical developmental disabilities, students with behavioural problems, children with ADHD, Roma children, children with various special needs, drafting of an individual educational plan for children with SEN, encouraging the activity of the children with SEN).

Since formative assessment is considered to be one of the essential tools for working with students with SEN, the teachers were asked whether they have attended trainings in assessment. Many teachers in first grade - 40%, and about 20% of the teachers in the third/fourth and in sixth/seventh grade have not attended such trainings. Almost all trainings that the subject teachers have attended are related to descriptive assessment. Those trainings somewhat cover the contents on using assessment for supporting the students with SEN. One third of the subject teachers answered that they have attended trainings in formative and summative assessment, which could be to some extent adequate for supporting the students with SEN.

During the last years, the grade teachers have had intensive methodical trainings related to the programmes *Thinking Mathematics in the early grades* and *Language literacy in the early grades*, which showed to be effective approaches to improving

.....
³⁰ Their opinions are discussed below in the report.

the students' achievements³¹. On the other hand, more than half (60%) of the surveyed subject teachers from the pilot-schools, answered that during the last five years they have not attended trainings in new teaching approaches specific to the subject they are teaching (mother tongue, mathematics or Macedonian language for the classes where Albanian is the language of instruction).

CONCLUSION

- ▶ The majority of the teachers believe that they only cater to a number of students with special educational needs.
- ▶ The majority of the teachers believe that they are only partially or insufficiently trained to work with almost all categories of students who (may) encounter learning difficulties. They are least trained to work with students who are not too familiar with the language of instruction and with students with intellectual disabilities.
- ▶ More than a half of the teachers believe that they possess, to a sufficient extent, the competences for inclusive education, except for knowing the different models and concepts of inclusive education and drafting of individual educational plans.
- ▶ The majority of the teachers (80%) have not attended trainings in inclusive education and the majority are interested in attending such trainings. The majority of the teachers of mother tongue and mathematics have not attended any methodical training during the last five years.

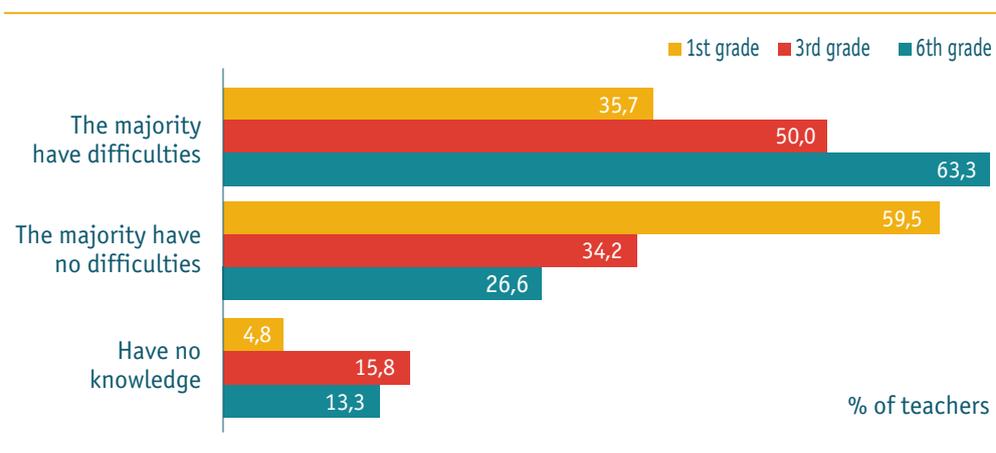
1.3. CATERING TO THE EDUCATIONAL NEEDS OF THE ROMA STUDENTS

The majority (89%) of the surveyed teachers teach Roma students. The number of Roma students in the classes is between 1 student and 29 students. The surveyed teachers teach the total of 1445 Roma students.

Almost half (48%) of the teachers believe that the majority of the Roma students have learning difficulties, and a little less (42%) believe that the majority of Roma students do not have learning difficulties. It is indicative that 10% of the teachers did not answer or gave the answer that they have no knowledge about it.

31 Project: Thinking Mathematics in the early grades, Report - Research of the achievements at the end of the first cycle of the realization of the project, MCEC, 2012, and Project: Language literacy in the early grades, Report - Research of the achievements at the end of the first cycle of the realization of the project, MCEC, 2013. Both projects are funded by UNICEF.

GRAPH 4. *How many Roma students have learning difficulties*



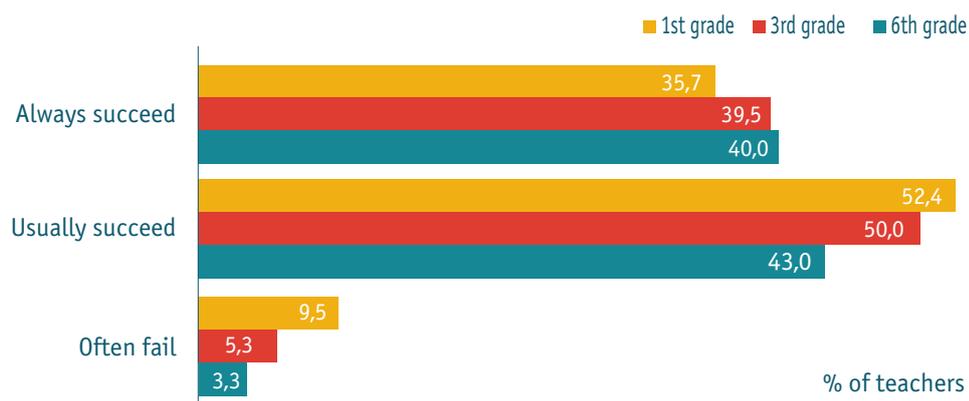
The percentage of teachers who believe that the majority of their Roma students encounter learning difficulties increases significantly with the students' age: the smallest is among the first grade teachers who believe that their Roma students encounter learning difficulties, and largest among the sixth/seventh grade teachers. This data emphasized the seriousness of the situation which instead of overcoming the students' learning difficulties related to their socio-economic background through education, they are increasing.

Even though the number of surveyed teachers in the schools is relatively small, still in some schools there are many teachers who believe that the majority of their Roma students have learning difficulties. That may be a result either of their greater sensitivity or of some specifics of the Roma population in their schools (for example, more frequent absence from school of the Roma students due to their engagement in temporary agricultural work, or due to their stay abroad as asylum seekers, and similar).

For the grade teachers, the most common student difficulties come as a result of their insufficient knowledge of the language of instruction and the problems with reading and writing, followed by irregular attendance of the students and lack of interest in learning, as well as sporadically working at home and lack of help by the family in learning. For the subject teachers, the most common difficulties are the ones related to reading and writing, irregular attendance and lack of interest in learning. Not many teachers believe that the learning difficulties of the Roma students are a result of some other causes: challenging home learning environment, poverty, educational neglect, challenging behaviour, difficulties in learning mathematics, attention and concentration disorders.

As regards the question - to what degree they are able to offer the necessary support to their Roma students, about 90% of the teachers believe that they always or usually succeed in offering those students support.

GRAPH 5. *Provide the necessary support to Roma students with learning difficulties*



There are no differences among the grade and subject teachers in relation to the self-assessment of the extent to which they succeed in offering learning support to the students.

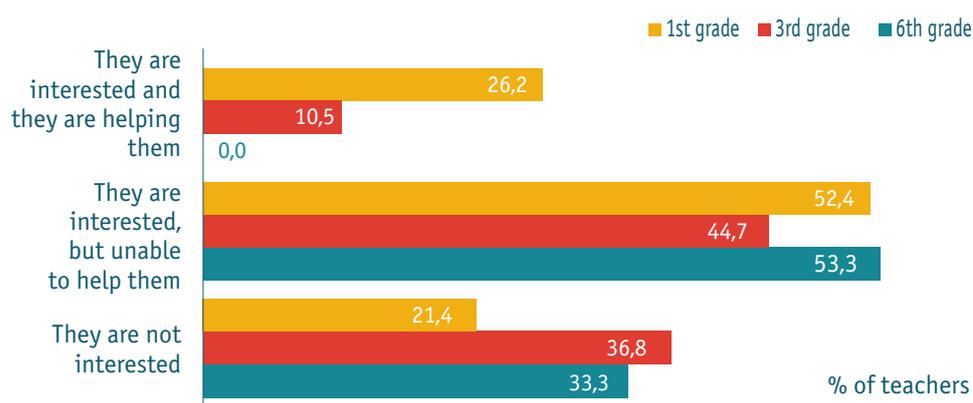
The answers of the school principals to the same question (they answered on behalf of the entire school), are similar. Of the seven school principals, six believe that the school always or usually succeeds in catering to the needs of these students, and one school principal believes that they usually fail.

Generally every teacher, as reasons for failing to cater to the needs of Roma students, mentions the lack of collaboration and support from the parents and irregular attendance of the students. The first grade teachers generally answered that they are not able to supply the students with the necessary learning materials. The third/forth grade teachers answered that they do not have enough time to work with these students due to the large number of students in the class, the insufficient time for additional classes and the complexity of the curriculum. The subject teachers encounter difficulties with the gaps in the previously acquired knowledge of the students. Moreover, they also mention the following difficulties: when the students are not sufficiently familiar with the language of instruction or the teachers have no knowledge of the Roma language, as well as not having the competences to work with students with disabilities.

Half of the teachers believe that the parents of their Roma students are interested in their children’s learning, but they are unable to help them, and only 14%

believe that the parents are interested and do whatever they can to help the children in their learning, and one third of the teachers believe that the parents are not interested in their children's learning.

GRAPH 6. Teachers' opinions about the interest of the Roma parents in their children's learning



The usual answers of the first grade teachers were that the parents of their students are interested in their children's learning and they do whatever they can to help them. It is understandable, considering that the help of the parents in the first grade is related to basic literacy, and afterwards higher level of knowledge is required.

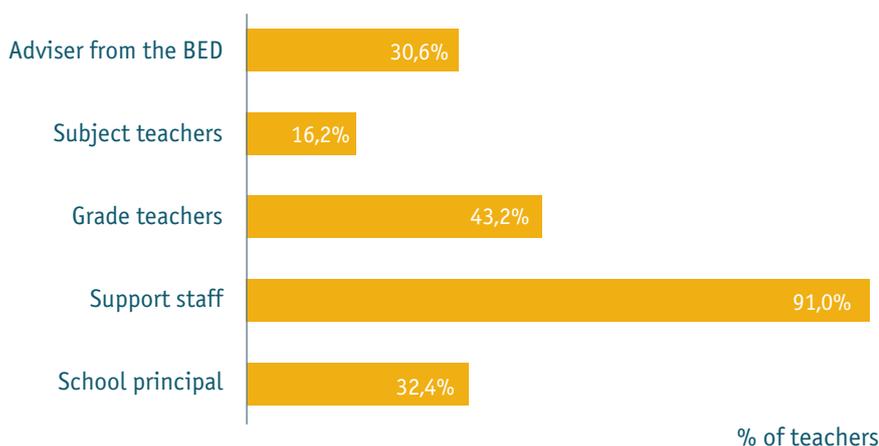
As an answer to the question: What is important to consider when planning activities related to the education of Roma students as part of the UNICEF supported Programme?, the most common suggestion of the teachers is to include and educate the parents, as well as to pay attention to their specific social and family situation. It is also the most common suggestion of the school principals. Moreover, the suggestion of the majority of first grade teachers was to ensure collaboration with the support services and with other institutions and do something to ensure regular attendance of the students. The teachers in the upper grades suggested that the Programme should find solutions to establish educational objectives which are adequate to the vulnerable groups of students and adjust the teaching methods for working with those groups.

Regarding the question: What could the school do so the students of Roma ethnicity can complete primary education with success and enrol in high school?, the opinions of the teachers are divided: about the same number of teachers (about 46%) believe that the school can do many things, i.e. it cannot do much and it all depends on the children and the parents. There is a significant difference in the answers of the teachers from specific schools. In one school,

73% of the teachers believe that the school can do many things for the success of the Roma students, while only 25% of the teachers in a different school share that opinion. The pessimism of the majority of teachers about the school's inability to do much for these students to complete primary education with success and enrol in high school is probably a result of their previous experience.

If they need support for their work with Roma students, almost all teachers (91%) expect to get it from the support staff, and a significantly smaller number, hope for the support of their teaching colleagues, the school principal or the BED advisers.

GRAPH 7. *The support in working with Roma students that is expected by the teachers*



Almost an equal number of respondents - grade teachers, and respondents - subject teachers, hope to get the support of the grade teachers. However, a small number of the respondents - grade teachers (16%) and a slightly larger number of respondents - subject teachers (40%) expect to get the support of the other subject teachers in the school.

CONCLUSION

- ▶ The majority of the teachers know that their Roma students encounter learning difficulties and that their number increases in line with the age of their students.
 - ▶ Almost all teachers assess that they generally provide the necessary support to these students, but they are unable to provide the adequate support from the family. The family, even when it is interested, is unable to help the students with their learning and it is unable to provide the necessary learning conditions for the students.
 - ▶ Almost half of the teachers think that the school is unable to do much so the Roma students can successfully complete primary education and enrol in high school.
 - ▶ When working with Roma students, who need help with their learning, the teachers generally expect support from the support staff.
 - ▶ For the Programme, the teachers usually suggested to pay attention to the provision of support to the teachers and schools in dealing with the difficulties when working with the families, to provide material and educational support to the families and the teachers should be trained on adjusting the objectives and methods for working with these students.
-

1.4. THE UNDERSTANDING OF THE TEACHERS RELATED TO THE FACTORS FOR SUCCESSFUL LEARNING AND TO THE FLEXIBILITY/INFLEXIBILITY OF MINDSET

The researches³² have shown that the understanding of the teachers related to the factors for successful learning, determines the manner in which the teachers will motivate the students to a large extent. In this regard, in recent times, the theory of Carol Dweck caused a great interest and it is related to the teachers' understanding of intelligence, whether it is fixed or it could be developed. According to this theory the people with a fixed/static mindset believe that their abilities, as are intelligence or talent, are fixed, inflexible features. They tend to worry about proving intelligence, i.e. talent, rather than improving them, which requires efforts. Therefore, they avoid the problems for which they think they lack the ability to solve/do or the tasks that require effort and may lead to failure, which would change the opinion about their intelligence. On the other hand, the people with a flexible mindset that can be changed, believe that intelligence and talent can be developed if they are dedicated and work hard and therefore accept the hard tasks, make efforts, are not afraid of mistakes and accept that they can learn from their mistakes, and that approach results in greater success.

It is considered that the teachers' understanding related to the fixed or growth nature of intelligence determines their working method with the students. If they believe that "the student can only do as much", they will not give him/her tasks which are challenging and will not provide him/her with the adequate support using feedback. It is also considered that if the teacher's feedback is directed towards the students' abilities, it will lead to the development of a fixed mindset among the students, and if it is directed towards the made efforts and using the mistakes to change the approach to the task, it will lead to the creation of a flexible mindset and better success.

There is no any research and experience in using this education theory³³, although there are numerous trainings in formative assessment that lead to approaches

32 Carol S. Dweck, Gregory M. Walton, & Geoffrey L. Cohen, *Academic Tenacity: Mindsets and Skills that Promote Long-Term Learning* http://web.stanford.edu/~gwalton/home/Welcome_files/DweckWaltonCohen_2014.pdf

33 Ana Mickovska Raleva (2010), *Teachers' implicit theories of pupils' intelligence and motivation: a comparative analysis between Macedonian and English teachers.* - Skopje: Center for research and policy making

that are adequate for the development of a flexible mindset³⁴, even though it was not their direct intention. The research shows that formative assessment had the biggest influence on improving the successfulness of the students with learning difficulties³⁵. Bearing in mind these findings, it is planned for some of the activities of the UNICEF supported Programme to be dedicated to the improvement of formative assessment and to the development of a flexible mindset among the students. In that regard, before the start of the Programme, the opinions of the teachers were tested on the degree to which specific factors are considered important for successful learning, as well as their opinions on the flexibility/inflexibility of intelligence and qualities of the person.

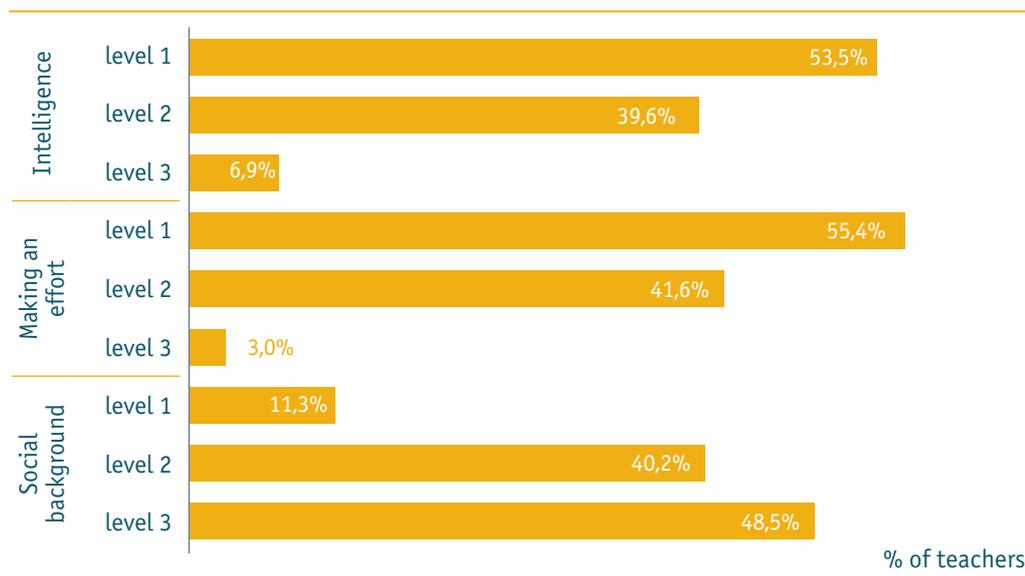
The teachers were asked about the degree to which different factors are important for the students to learn successfully. As an answer, they had to write down the importance of the following factors in percentages: innate abilities/intelligence; work/engagement; social/cultural background, and they were also allowed to add some other factor. The teachers' answers about the importance of every mentioned factor were very heterogeneous and between 0% and 80%. The teachers, on average, believe that intelligence and engagement are equally important to successful learning, and the social background is less important.

The graph below shows the teachers' answers according to the level of importance which is given to separate factors (level 1 means that greatest importance is given to the adequate factor, level 2 means it is second in value, and level 3 means that it is the least important factor of the three offered).

34 Shiel Jary, D. Marchan, K. Poposki, G. Mickovska, (2008), Application of student assessment standards – Training materials - Primary education project financed by USAID

35 Black P. Harrison, c., Lee C., Marshal B. & Wiliam D., (2003), Assessment for Learning-Putting it into practice, Buckingham, Open University Press

GRAPH 8. Ranking of specific factors for successful learning



For the majority of the grade teachers, the most important factor is intelligence, unlike the subject teachers who place engagement as the most important factor for successful learning.

The teachers' understanding of the flexibility/inflexibility of abilities was measured on a scale of attitudes³⁶. The scale was adapted and standardized to a sample of teachers from the schools included in the programme.

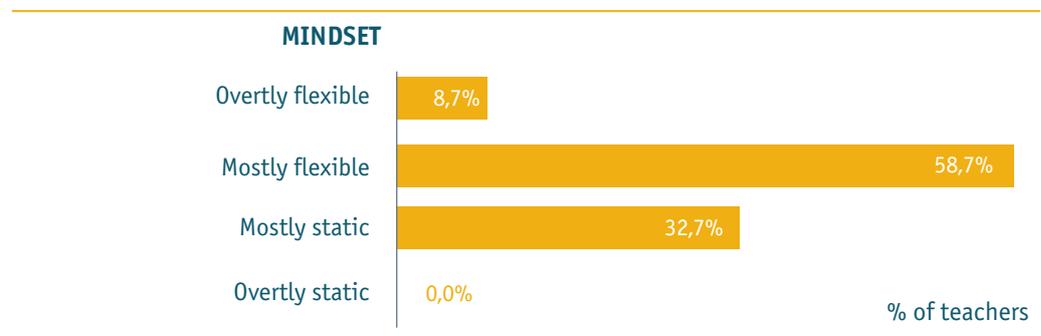
According to the answers on the scale, the respondents are grouped in four groups:

1. overtly flexible mindset – strongly believe that the abilities may be developed;
2. mostly flexible mindset - believe that the abilities may be developed;
3. mostly static mindset - believe that the abilities are inflexible; and
4. overtly static mindset – strongly believe that abilities are inflexible.

Of the total number of 111 teachers, 104 answered all statements on the scale.

³⁶ The scale was taken from <http://www.classroom20.com/forum/topics/motivating-students-with>,

GRAPH 9. Percentage of teachers according to the understanding of nature of intelligence



More than half of the teachers (58.7%) have a mostly flexible mindset and about 10% have overtly flexible mindset, i.e. they believe that intelligence can be developed. A third of the teachers have a mostly static mindset, i.e. they believe that intelligence is mostly static. There are no statistically significant differences between the grade and subject teachers regarding the understanding of the nature of abilities.

CONCLUSION

- ▶ The teachers have divided opinions regarding the importance of intelligence and engagement for successful learning.
- ▶ The majority of the teachers believe that intelligence and the qualities of the person can mostly be changed, if an effort is made.

2. UNDERSTANDING OF INCLUSIVE EDUCATION BY THE EDUCATIONAL PERSONNEL IN THE SCHOOL AND THE INCLUSIVENESS OF THE SCHOOL AS A WHOLE

The inclusiveness of the schools is a key assumption for successful education of the students from vulnerable groups. The role of the school principals and of the school support staff is crucial for policies creation and for guiding the school practices which are related to the inclusion of vulnerable groups. In that regard, the baseline study of the schools which are included in the UNICEF supported Programme, examined their views on different aspects which are relevant for the realization of the programme:

- Understanding the group of students with special educational needs by the school principals and the school support staff and the situation within their school;
- The educational needs of the Roma students and the support they receive at the school;
- The support that the school needs to better cater to the educational needs of the Roma students;
- Inclusive policies and practices at school level.

The study was conducted through: survey of the school principals; discussion in the focus group with the support staff and self-assessment of the school's inclusiveness at the scale for self-assessment.

Considering the small number of subjects (7 schools, 7 school principals and 14 members of the support staff), the obtained findings are shown mostly qualitatively, using a topic analysis of (1) the content of the answers to the open-ended questions in the questionnaires and of (2) the discussion in the focus group, and sometime quantitatively, as a number of subjects with same or similar opinion or as average values on the scale of inclusiveness. The school principals and the support staff answered the same question. The answers of the school principals are shown first, followed by the answers of the support staff.

The self-assessments of the inclusiveness of the schools are shown numerically and graphically. In this report, the findings are given only at the level of the entire group, and not by schools, while the results at the level of the schools are offered to the schools to serve as a diagnosis of the situation and for monitoring their own progress.

2. 1. UNDERSTANDING THE STUDENTS WITH SPECIAL EDUCATIONAL NEEDS AND IDENTIFICATION OF THE DIFFERENT TYPES OF SPECIAL EDUCATIONAL NEEDS OF THE STUDENTS IN THE SCHOOL

METHOD OF MEASURING

Four questions, from the Questionnaire for the school principals, were used to determine how the school principals understand the category of *students with special educational needs* and which types of special educational needs they can identify. The same questions were discussed in the focus group of the support staff.

2.1.1. WHO ARE THE STUDENTS WITH SPECIAL EDUCATIONAL NEEDS

As it was already discussed, the laws and the policy documents on education in the country do not use a definition of students with special educational needs which is harmonized with the international definitions³⁷. Therefore, the understanding of these group students, by the school management, may directly influence the school inclusive policies and practices, particularly those related to the support of Roma students.

When asked about what they understand by students with special educational needs, the school principals, had the opportunity to choose one or more of the following answers:

1. Students with *intellectual disabilities*
2. Students with *physical disabilities*
3. Students with *learning difficulties* arising from behavioural problems

37 Students with Disabilities, Learning Difficulties and Disadvantages: Policies, Statistics and Indicators © OECD 2007

4. Students facing *disadvantages arising from socio-economic or cultural, and/or linguistic factors*

In order to provide the necessary educational support to the Roma students, who often fall under group 4, it is important for all participants in the process of education to have accepted a common definition of students with special educational needs.

The majority of **school principals** (six from the total number of 7) *think that several of the mentioned groups of students* are included in the group of students with special educational needs. All (7) school principals include the students with intellectual disabilities, six include the students with physical disabilities, five include the students facing disadvantages arising from socio-economic or cultural, and/or linguistic factors and only three school principals include the students with learning difficulties arising from behavioural problems.

The majority of the school **support staff**, in the discussion about the students with special educational needs, showed that *they have accepted the extensive definition* of these students, which includes the students from the vulnerable groups, students who currently attend school, but do not achieve satisfactory results, students who are not being taught in their mother tongue, as well as the talented students.

They are educationally neglected children or children who will attend school for a period of time, and then they drop-out and are nowhere to be found (pedagogue).

The special educational needs are a range of needs: emotional, social, related to the environment, family, friends, and neighbours – information about the needs should be well documented for better understanding and providing support to the child. A talented child also has special educational needs (special education teacher).

Some of the school support staff has expressed the dominant traditional understanding of students with special educational needs - as students with disabilities, i.e. developmental difficulties.

Primarily, we understand the phrase children with special educational needs as children with difficulties in the intellectual development. The primary issue is the developmental delay, not only do those children have reading difficulties, they have speech impediments, emotional-social problems of the parents, it is a complex situation where we have a range of problems among these children (special education teachers).

2.1.2. NUMBER OF STUDENTS WITH SEN AND THEIR SPECIAL EDUCATIONAL NEEDS

The majority of school **principals**, when explaining the special educational needs, have described the specific causes they arise from, as for example: *“the low socio-economic status of the family, the low level of education of the parents, the illiteracy of the mothers, as well as the culturally deprived environment which implies and reflects the gaps in the physical, intellectual, perceptive and vocabulary development of the child-student”* or *“illiteracy (of the parents), seasonal work (from April to October the students interrupt their education), going abroad (asylum-seekers), abuse of child labour, the parents abandon the children, the fathers are serving a prison sentence (for drugs, thefts...),* while the others only listed the groups of students.

According to the information obtained from the school principals, the percentage of students with special educational needs varies in their schools and it goes from 2% to 72%.

TABLE 10. Percentage of students with special educational needs from the total number of students in the schools according to the knowledge of the school principals

SCHOOL	STUDENTS WITH SEN	GROUPS OF STUDENTS WITH SEN *	ROMA STUDENTS
Gjorgji Sugarev	8 %	Intellectual disability	70,6 %
Edinstvo-Bashkimi-Birlik	1 % до 5 %	Intellectual, physical disabilities and arising from socio-economic, cultural and linguistic causes	22,6 %
11 Oktomvri	10 %	All 4 groups of students	25 %
Dobre Jovanovski	10 % до 15 %	All 4 groups of students	72,9 %
Brakja Ramiz i Hamid	72,7 % 1. (0,5 %); 2. (0,7 %); 3. (0,5 %); 4. (70 %)	All 4 groups of students	97,7 %
Naim Frasheri Tetovo	2,05 %	Intellectual, physical disabilities and arising from socio-economic, cultural and linguistic causes	5,2%
Dimitar Vlahov	/	Intellectual, physical disabilities and arising from socio-economic, cultural and linguistic causes	9,3%

* It refers to the groups offered in the answer to the question which is given above.

The large differences in the percentage of students with special educational needs in the different schools, are often related to the percentage of Roma

students, even in those schools where the school principals do not consider the students coming from a disadvantaged socio-cultural environment and whose mother tongue is different than the language of instruction, to be students with special educational needs. The number of students with special educational needs, reported by the school principals, is significantly higher than the number which was reported by the schools during the collection of statistical data³⁸ at the start of the Programme, when the OECD definition of special educational needs was used.

The school support staff, when talking about the number of students with SEN, were more focused on the students who are diagnosed, the students with a note from the Categorization Commission, the students with disabilities and “difficult” students, meaning the Roma students.

“A small number of children who are categorized, i.e. who were checked in agreement with the parent, are children who are subject to educational neglect, have attention disorders, intellectual disability, etc. However, the number of children with special educational needs at the level of the school is much higher, 25% of the total number, with a wide range – vision, hearing, speech, problems with pronunciation and writing – dyslexia and dysgraphia are very common in the last period (a pedagogue).”

“The school has about 70% of Roma students, and half of them have special educational needs. We also face the problem of migration and going abroad. The students drop-out in this manner (special education teacher).”

“We have 23 children with special educational needs, only one was categorized, and regarding the children with learning difficulties and the other groups of children with emotional problems, disadvantaged social status, there are 80 of those students. 70 % of the students in the school are Roma and the majority of those children are asylum seekers, seasonal workers, have divorced parents, parents who don’t really care about education (special education teacher).”

The answers of the school principals and the school support staff show that they are confused about the group “students with special educational needs”, which is expected considering the current lack of clarity in the terminology and definitions which are used in the different documents in the former Yugoslav Republic of Macedonia.

38 Aleksova A. Msc, Ilievski I., Dimeski B., unpublished report, UNICEF supported Programme on Inclusive Education: General Statistics report, MCEC, Skopje (2014), (page 3).

CONCLUSION

- ▶ There are differences among the school management staff regarding the understanding of the groups of students with special educational needs: from a narrow definition as students with developmental disabilities, to a very extensive definition which covers all special educational needs, including those of the talented students.
- ▶ There are significant differences among the pilot-schools, both in the assessed number of students with special educational needs and in the identified types of needs.
- ▶ The majority of the school principals and school support staff have accepted the extensive definition of the students with special educational needs, which is a good starting point for working in the Programme

2.2. SUPPORTING THE STUDENTS WITH SPECIAL EDUCATIONAL NEEDS IN THE SCHOOL

METHOD OF MEASURING

Two questions were used from the Questionnaire for the school principals, to examine how do the school principals connect the special educational needs of the students with the methods of support that the school should provide and the support that it is providing. The same questions were discussed in the focus group of the school support staff, where they provided answers for the school as a whole and for their role as school support staff.

2.2.1. TYPE OF SUPPORT DO THE STUDENTS WITH SPECIAL EDUCATIONAL NEEDS REQUIRE IN THE SCHOOL

To successfully cater to the specific educational needs of the students it is necessary to identify them and find the most adequate ways to satisfy them. **The principals** of two schools have stated that these students need the support of the defectologist (those are the two schools which recognize children with intellectual disabilities as the only children with special educational needs). Two school principals did not state any specific support, while three school principals have stated different types of social and educational support, for example *“economic-material support from the local community, raising the level of cultural awareness and education of the parents”*, adequate methods of working with the

students - *“individualized work with the students during the additional classes, using different supervision means, methods, forms and working techniques... inclusion of the students in the extracurricular activities according to their interests and abilities”* which require education of the teachers and *“greater and better quality collaboration with the parents, education”*. Only the principal of one of the schools underlines the educational needs of these students, i.e. the support *“to develop i.e. exercise the skills for analysis, synthesis, concentration, attention, classification, generalization, skills for deduction, induction, precise expression of the thoughts and the perception skill ”*. She believes that it is necessary to work with the families on *“raising the level of aspirations, belief that their children will acquire qualifications, will get a job and they will surpass the level of their families”*.

2.2.2. HOW MUCH DO THE SCHOOLS CATER TO THE SPECIAL EDUCATIONAL NEEDS OF THE STUDENTS

The principals of four schools believe that their school is catering to many of the educational needs of the students with SEN, two school principals believe that they cater to all educational needs of these students (those are the school principals who did not specify the needs of these students). The principal of one school, who has specified the educational needs in terms of development of thinking processes, learning and language development and her school has many students from underprivileged families, believes that *“the school cannot cater to most educational needs of these students”*. The schools explained that **they cannot cater to some needs of the students**: two school principals answered that those are the needs of the students with intellectual disabilities (they are the school principals who believe that only this group of children has special educational needs), one school principal answered that they cannot cater to the needs of the students *“who have aggressive and hyperactive behaviour, combined disabilities, autism, children with learning difficulties and difficulties with writing meaning dyslexia, dysgraphia, dyscalculia, speech impediments, decreased intellectual abilities and similar”*. One school principal answered that the school cannot adequately assist in the development of the cognitive processes, as well as contribute to speech development, and in one school, they cannot cater to the needs of *“students with disadvantages arising from socio-economic or cultural factors”*.

According to the opinion of the school principals, **the most common obstacles** to catering to all types of educational needs they have identified, are the following:

the teachers are not trained to work with these students (three school principals); the high number of students in the classes and not having a defectologist for the class or a support team in the school (two school principals); characteristics of the parents (not interested in their children's learning, low level of education and similar) - two school principals.

The principals of four schools believe that the majority of the educational personnel in the school are not sufficiently prepared to work with the students with SEN, two school principals stated that the majority are prepared, and one school principal stated that he could not make the assessment. With reference to the motivation of the educational personnel to work with students with SEN, the principals of three schools believe that they are sufficiently motivated, three schools believe that they are not sufficiently motivated, and one school principal could not make the assessment. The school principals who have thoroughly reviewed the special educational needs of the students believe that the majority of the educational personnel are not sufficiently motivated. It might be the result of their greater expectations of being engaged in working with students with SEN.

The principals of two schools believe that they completely cater to the students' SEN.

The school support staff, during the discussion about: Can the school, as a whole, cater to the special needs of the students? They seem to be **focused more on the problems/barriers they are faced with, rather than the results they are achieving**. Moreover, they pinpoint the problems within the student himself/herself, within the social factors, above all in the family, followed by the school and the competency of the education institutions. From their answers, it may be concluded that the current legislation in support to inclusive education is not completely defined, and because of this there is a dilemma among the school support staff about who are children with special educational needs and whether they should be part of the regular classes, in the special classes in the regular schools or in special schools which is an indication of the predominant medical approach in viewing disability.

“ They will enrol the child in the first grade, the parents want that and the school has to accept him/her, and if it is a quiet child the teacher won't have any problems with him/her and the child will get to the fifth grade. However, for the children who are hyperactive and more aggressive, who create problems, there will be an urgent process, and pressure from the teacher,

for gathering signatures from the parents so the child does not continue the education in the regular class. Maybe those children do not have intellectual disabilities, they have behavioural problems and they are able to master the curriculum without any problems (a defectologist).

The next problem that the school support staff is faced with and which additionally obstructs the inclusion of the students, is the family (the bad socio-economic situation of the Roma families, the high level of unemployment, teenage marriages, child labour and begging, negative tradition and absence of a positive attitude towards education, illiteracy of the parents which prevents them from helping the children when doing homework). According to the school support staff, *“there are parents who bring their children for categorization in order to use social assistance or take the children to the Institute for deaf and make the child pretend that he/she is deaf so he/she could make use of the benefits like food and accommodation”*.

“In my school, there are 70% of Roma children, and 25% of them have parents who are illiterate, the mother is the greatest determinant of the education of her child and if she is illiterate than it’s very difficult for the child. Working with parents is very difficult, there are some who are very well informed, but there are some who think that the defectologist has a magic stick and he/she will make his child normal and they see me as the enemy. When I am sincere and tell them that this is what is happening to your child and you will be faced with these problems in your lifetime. A small percentage of parents have sincere discussions about what is happening to the child at home (a defectologist).

The problems which are directly related to teaching are also mentioned; above all, the curricula, in terms of inflexibility and inadequacy, the breadth of the teaching content. Moreover, the students can easily complete first to fifth grade without acquiring the basic knowledge that will enable them to continue with the subject teaching. Furthermore, they do not speak the Macedonian language, i.e. they have limited knowledge of the language, in addition to their inability to understand and use abstract and complex linguistic conceptions, which are crucial for mastering the teaching content.

“The adapted curricula from the Bureau are inadequate for the children in the special classes, they are adequate for the students who are part of the regular inclusion classes, and they learn the curriculum intended for all students. Therefore, we have a situation where the students who are part of

the regular classes through inclusion, cannot be educated and when they get to the sixth grade they're transferred to the special classes and we can't do anything with them (a defectologist).

“It is necessary to adapt the curriculum to the social, economic, psychological and other problems that the students with special needs encounter. A special curriculum and a special approach to these children will be both in their interest and for the usual development of the educational process in their class (a pedagogue).

According to the opinions of the support staff, **there are problems with the preparedness of the teaching staff to work with the students with special educational needs**, and this refers particularly to the teachers in the subject teaching. The teachers' understanding of abilities as something that is given and which cannot be developed leads them to unintentionally or maybe instinctively, build and adopt a system of values, views and habits related to these students as students who “cannot” advance and therefore it is better for them to be transferred to special schools. This process, which as a hidden curriculum is being developed in the schools, becomes particularly relevant in the sixth grade, when the subject teaching begins.

“The grade teachers understand these children because they spend the entire day with them. However, there are problems in the subject teaching because every teacher has his own/her own opinion about these children, for example the teacher of biology has his own/her own opinion of these children, then another teacher will arrive, he/she cannot understand them, then the third teacher - he/she cannot stand them, the fourth - doesn't like them, the fifth - isn't willing to work with them. The problem is with the older children and the subject teachers. Every teacher has the minimum qualification to work with these children (a pedagogue).

Even though there is a legal obligation to conduct **complementary and additional instruction**, nonetheless, the school support staff believes that it is not practically feasible.

“The inspectors also request regular additional instruction, but it's difficult to keep the child in regular classes and it's even more difficult to do that during the additional instruction. The additional instruction has no effect. The problem just lingers, even though there are some efforts from the NGOs to help the children with their homework, but it's also unsuccessful (a defectologist).

The lack of teamwork (despite the fact that the indicators of the State Education Inspectorate define that it is necessary to have a school inclusion team in each school), and collaboration with the competent/expert institutions, this is also an obstacle for the schools to be able to cater to the students' needs to a greater extent.

// We have limited collaboration with the social workers who are very hard to reach. For example, we just "let go" of a student who once had excellent grades but as a result of the inactivity of the social workers and due to the large number of students in the school, has now dropped to low grades. The child should be monitored, particularly by a team of school support staff, psychologists, defectologists, pedagogues and we should work on the child to keep his/her grades (a pedagogue).

As for the positive issues, i.e. the question about what assists them in catering to the students' needs, the support staff had nothing to emphasize. It was only mentioned that they have a good collaboration with some of the subject teachers, with some parents and with several NGOs.

// Only with patience, hard work and objectives which are adapted to those children, we can achieve some results (psychologist).

CONCLUSION

- ▶ There are great differences among the principals in the pilot-schools as regards their views about the causes of the special educational needs. Some school principals provided very specific answers about the causes, while the others provided superficial and general answers. It could be an indicator that not all principals paid attention to this group of students.
- ▶ Almost every school principal (6) believes that their school caters to most or to all educational needs of the students with SEN. The majority of school principals do not associate the support for the students with special educational needs with the processes related to their learning or with the method of working with them.
- ▶ The support staff has identified numerous difficulties due to which their schools cannot fully cater to all types of educational needs they have identified.

2.3. EDUCATIONAL NEEDS OF THE STUDENTS OF ROMA ETHNICITY AND THE SUPPORT THEY RECEIVE AT SCHOOL

METHOD OF MEASURING

Two questions from the Questionnaire for the school principals were used to determine how the school principals understand the educational needs of the Roma students. Those two questions and additional two questions were discussed in the focus group with the school support staff.

All schools, which were included in the programme, have a significant number of Roma students. According to the answers of the school principals, the percentage of Roma students who complete primary education, and particularly secondary education, is significantly lower compared to the similar number of students educated in their mother tongue (Macedonian i.e. Albanian). According to their findings, almost 100% of the students of other ethnic groups complete primary education and among the Roma students of Roma ethnicity, the percentage is between 50 and 70%. Between 85% and 100% of the students of other ethnic groups complete secondary education and the percentage for the Roma students is between 20% and 70%, of those enrolled. This points to the fact that the Roma students need greater support during their education.

The school principals are aware of the fact that the Roma students encounter learning difficulties: four principals from the pilot-schools believe that most Roma students in their school face learning difficulties, two school principals believe that only a small number of Roma students have learning difficulties, and one school principal had no information about this issue. As regards the learning support that these students require, the principals of three schools answered that they require greater support from the parents/family, the principals of two schools – they require support for learning the Macedonian language, i.e. the language of instruction, as well as additional effort to prevent or overcome the students' stagnation or regression. To enable the aforementioned, one of the school principals believes that it is necessary *“to include assistants, defectologists and speech therapists in the instruction and adequate training for the teachers for working with this group of students”*, and the principal of a different school believes that *“the curricula which is drafted by the BED are not adequate to the intellectual abilities of the students”*.

As regards the question: **To what degree is the school successful in providing the necessary support to these students**, the principals of four schools believe that the school always provides the necessary support to the Roma students with learning difficulties, while the principals of three schools believe that they are mostly successful in providing the necessary support to these students. Only the principal of one school, where the majority of Roma students, believes that they often fail in providing the necessary support to the students.

The school support staff, in the focus group, discussed about some of their practices for inclusion of Roma students. **The criteria which are used to allocate Roma children to first grade classes**, i.e. how many Roma students are allocated in a class, is an indicator of inclusiveness in relation to the students during the enrollment in the first grade. Even though they are aware of the fact that the Roma students should be evenly allocated to the classes with the other students, it is not the case. In one of the schools, the parents avoid their school as a choice for enrollment of their first graders, precisely due to the fact that there are Roma students in the school. Therefore, they are obliged to group the Roma children in separate classes in order not to lose the other students: *“We now have more difficult students, the others avoid our school because we have Roma children. The Roma children should be allocated to the classes, we even present such a plan to the Ministry, but later we create a class composed of only Roma students in order not to lose the parents”* (defectologists in the school).

In another school, there are separate classes composed of Roma students (opened as part of efforts of the Decade of Roma Inclusion). However, for the enrollment, they always offer a free option to the parents: *“We only have two such classes and they function only until the fifth grade. Some parents asked for their children to be enrolled in the classes with only Roma children and the others ask for their child to learn with the Macedonian children”* (pedagogue in the school).

In the other schools, the Roma students are allocated to classes with Macedonian students, i.e. Albanian students and they themselves asked to be together with the others (in a mixed class).

Considering the fact that the counselling of parents of students with learning difficulties is obligatory and the majority of those students are Roma, the discussion with the support staff was about **the effects of the counselling of parents and the poor grades of Roma students**. The support staff report based on their experience that the parents of the Roma children do not understand the importance of their child's education. They show up for the counselling only

after the third invitation only to avoid the punishment. Moreover, the problem is that the parents do not have a habit to arrive on time and form a group, but individually, i.e. they do not understand the need to turn up at the counselling on a continuous manner and state that it is a waste of their time. The support staff believes that the causes for this situation can be found both among the parents and within the structure of the programme for parent counselling:

“Four times, we told them the same thing – about the styles of parenting and it makes the parents angry. They don’t know how to behave during the group counselling. One of them will say something and then another one and the psychologist occupies most of the time when describing the parenting styles” (a psychologist).

The support staff believes that an extensive programme should be considered so that it is not only a formality.

CONCLUSION

- ▶ In the pilot-schools, significantly lower number of Roma students complete primary school, compared to the students of other ethnicities;
- ▶ Almost every school principal concluded that a significant number of Roma students encounter learning difficulties;
- ▶ Based on responses by the majority of school principals, these students require greater support from the family, as well as support for learning at school;
- ▶ The principals of each school answered that they always (4 school principals) or mostly, provide the necessary support to the Roma students with learning difficulties;
- ▶ The support staff believes that the obligatory counselling of the Roma students with learning difficulties and behavioural problems and of their parents is not effective, both due to the lack of interest among the parents and due to the recommended inadequate concept for counselling;
- ▶ Regarding the issue of adequate inclusion of the Roma students in classes together with the other children, it is not achieved in every pilot-school, both due to resistance of the parents of other children and due to the desire of some parents of Roma children for their children to learn in “Roma” classes.

2.4. THE SUPPORT THAT THE SCHOOL NEEDS TO BETTER CATER TO THE EDUCATIONAL NEEDS OF THE ROMA STUDENTS

METHOD OF MEASURING

Two questions from the Questionnaire for the school principals referred to: what should the local community undertake to improve the state of the Roma students and what should be taken into consideration during the realization of the programme: Inclusive education for the most marginalized children.

Considering the fact that the needs to support the education of Roma students mostly arise from the family environment, it is also expected that the wider local community will be included in catering to the needs of these students. The school principals have stated different needs and ideas for activities which could be undertaken to improve the position of the Roma students in the local community. For example: the local community should work with the parents (education, humanitarian aid, home visiting), provision of additional means for activities with the students during the weekends and visits to cultural events, better distribution of children per school at municipal level which would enable the integration of the Roma students with the Macedonian students.

For the UNICEF supported Programme to be more responsive to the needs of the pilot schools, the school principals were asked the following question: *What is important about the education of Roma students, which should be taken into consideration in the UNICEF supported Programme?* The principals of six schools answered this question. The majority (4 school principals) believe that it is important for the programme to include working with the parents/family on raising the awareness on the importance of education, two principals believe that the access and regular school attendance of the Roma students should be provided, and one principal believes that external mentors should be included in the work with these students and efforts should be made to overcome the stereotypes in relation to Roma students and raise the awareness of: *“poverty implications on students achievements”, as well as “training of the teachers on differentiated instruction and use of contemporary teaching methods (research, problem-based instruction, use of various ways and learning materials)”*.

CONCLUSION

- ▶ The majority of the school principals believe that as a support from the local community and as part of the Programme, the focus should be on working with parents on raising the awareness of the need and the advantages of their children's education.
- ▶ The local community should provide additional means for out-of-school activities with the students and the parents.

2.5. INCLUSIVE POLICIES AND PRACTICES AT SCHOOL LEVEL

The Integral evaluations from the schools conducted by the State Education Inspectorate, contain several indicators related to inclusiveness and closely related to the Programme, they can be considered as sufficiently specific. However, the last integral evaluation in the seven schools included in the Programme, was conducted during different periods of time and it may be that some of the school indicators, two or three years ago, may not be relevant to the current situation. Therefore, a separate scale for inclusion of the most marginalized groups of students in the schools was drafted. When discussing on whether the assessment of the inclusiveness should be external, conducted by State Inspectors or BED advisors which would ensure higher level of objectivity, or by the schools as a self-assessment, which would be a way for the schools to reflect in-depth about the school inclusiveness at the start of the Programme, it was concluded that the second approach is more adequate for the Programme. The process of self-assessment is at the same time a way to learn about inclusiveness in a school and the areas that the schools need to reflect on in order to increase inclusion of the marginalized children.

METHOD OF MEASURING

For the purpose of self-assessment by the schools included in the Programme, we defined a detailed and comprehensive set of 127 indicators of inclusiveness in total*. The Indicators for integral evaluation, which are used by the State Education Inspectorate**, were used as a starting point for specifying the indicators of inclusiveness. The indicators drafted for this Programme are set in seven domains, the same seven domains which are specified by the State education inspectorate:

1. Teaching plans and curricula;
2. Students' achievements;
3. Learning and teaching;
4. Supporting students;
5. School climate and relationships within the school;
6. Resources;
7. Administration, management and policy creation.

Within each domain there are several subdomains. The self-assessment of the schools was conducted on each indicator, on a scale from 1 to 4, where 1 marks the lowest level – still not present, 2 – partially present, 3 – present to a significant degree, and 4 is the highest level of presence.

*The following explanation was given in the instrument: "Vulnerable students are those that need significant attention and that need additional support in learning so they do not experience failure in their education which may arise from different causes (for example, students from underprivileged families and low cultural status, students who are not taught in their mother tongue, students with different types of developmental disabilities and similar) ".

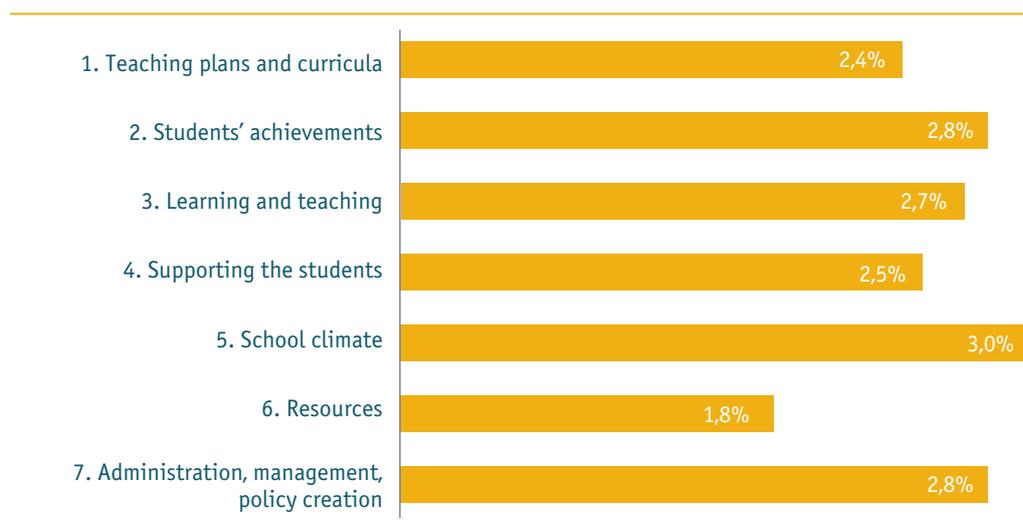
** Ministry of education and science, State education inspectorate, Indicators of the quality of work of the schools, Skopje, 2013.

2.5.1. GENERAL LEVEL OF INCLUSIVENESS IN THE SCHOOLS IN TERMS OF MARGINALIZED STUDENTS

During the data interpretation, our primary guiding principles were focused on differences in the trend, and not on the absolute values. There are two basic reasons for that: (1) the schools did not have training and therefore they probably do not have the same understanding of the level of presence of a specific indicator and (2) based on numerous previous studies³⁹ in education, there is a tendency of the respondents to show a more favourable situation in the self-assessments, compared to the actual situation.

The graph below shows the average assessments of the inclusiveness for each of the domains

GRAPH 10. Average self-assessment of the schools of the level of inclusiveness in the different domains



It can be concluded, that the data confirmed the previous assumption that the schools rather highly assess their own inclusive practice in many domains (the average self-assessments are above the arithmetic average value – 2.5).

The schools gave the most negative assessment (the average of 1.8) to the inclusive practice regarding the availability of material and human resources for inclusive education. At the level of the entire group of schools, below average (2.4) are the self-assessments of the degree of adjustment of the teaching plans and curricula, but even in this domain, the self-assessments significantly differ from school to school. Almost every school has a rather positive self-assessment (the average of 2.98) in relation to the constructive school climate and

³⁹ For example, TIMSS, PIRLS, National assessments.

relationships within the school for accepting the students from marginalized groups⁴⁰.

According to the specific data (by schools), the schools show most differences in the self-assessment in the domain of: Administration, management and policy creation (the range of responses is between 1.5 and 4).

2.5.2. SELF-ASSESSMENT OF INCLUSIVE PRACTICES IN THE DIFFERENT DOMAINS

In order to obtain a more detailed review, what follows is a presentation of the school self-assessments of the policies and practices by domains, in each of the seven domains. The average assessments of each separate indicator are given in Appendix 1.

DOMAIN 1. Teaching plans and curricula

There are 3 individual subdomains within the domain - Teaching plans and curricula.

Subdomain 1. *The planning models used in the school focus on students' needs and enable planning of differentiated instruction.*

Seven indicators are defined, which refer to the differentiated planning of the teaching work and materials, planning adjustment in line with the previous achievements, planning of various activities which enable interaction and support among students, freedom of the teachers to modify the planning, and mutual support for planning the inclusion of the marginalized students.

Subdomain 2. *The planning enables inclusion of the marginalized students*

The three indicators refer to the equal distribution of students from marginalized groups in classes, planning of materials and realization of activities which take into account the linguistic and cultural differences among the students and the opportunity to learn the subject: Roma language and culture.

Subdomain 3. *Individual educational plans (IEP) are drafted for children with developmental difficulties.*

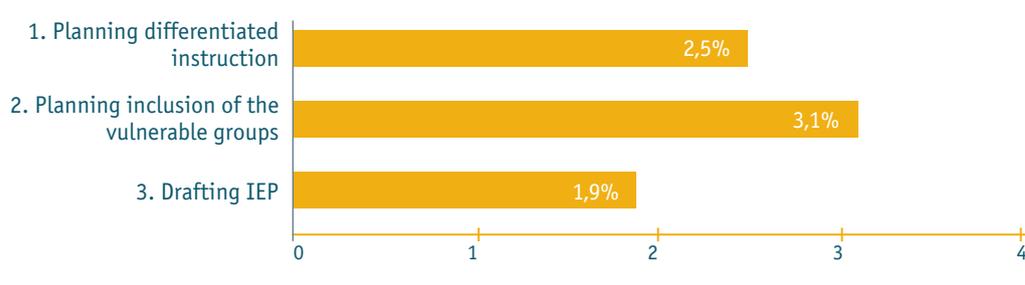
The indicators refer to the method of drafting the IEP (for all children with developmental difficulties, based on the previous achievements, joint and

40 It could be that the ongoing activities for inter-ethnic integration conducted in all these primary schools during the last three years, contribute to these high assessments.

extracurricular activities, with real and measurable objectives and previously planned monitoring procedures), involvement of the parents and consideration of the students' socio-cultural background.

The graph below shows the average school self-assessments of the schools in each of the three subdomains (the detailed descriptions of the subdomains are mentioned above in the text).

GRAPH 11. *Self-assessment of the level of adjustment of the teaching plans and curricula*



The schools assessments were highest in relation to the planning of the inclusion of marginalized children. The positive assessment might be due to the fact that some indicators are easily achievable (for example, distribution of students to classes), and some are achieved as a part of the activities in the projects for interethnic integration.

The self-assessments of the schools in relation to the drafting of the individual educational plans are the most unfavourable, which show the largest differences between the schools. Probably it is the result of the fact that some schools had training on this issue, and the others did not.

DOMAIN 2. Students' achievements

The indicators in the domain – Students' achievements are grouped in four subdomains.

Subdomain 1. *Provided coverage of all students from socially vulnerable groups.*

The seven indicators in this subdomain refer to the coverage and attendance of the Roma students, their inclusion in the extracurricular activities and coverage of the students with disabilities in the regular instruction.

Subdomain 2. *The school systematically identifies students from socially vulnerable groups and provides them with support according to their special educational needs.*

These indicators refer to the identification and provision of differentiated approaches and support for the students that encounter learning difficulties.

Subdomain 3. *The teachers treat all children (regardless of their background and abilities) in a way which reflects the belief that they may learn and can learn.*

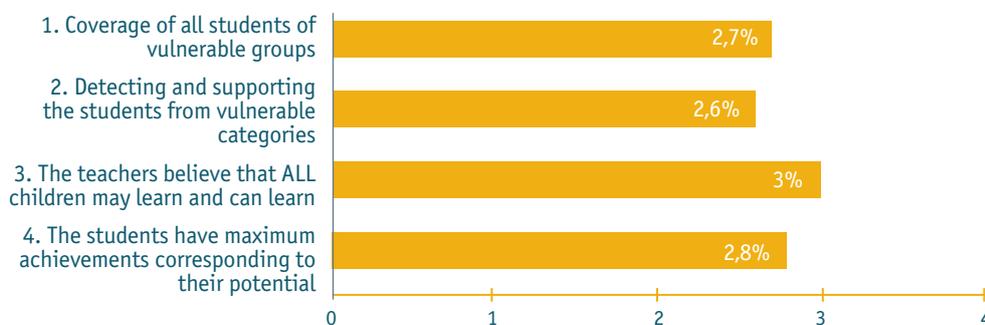
The seven indicators of this subdomain refer to accepting responsibility for the achievements both by the teachers and by the students, sharing the beliefs that all students may progress, creation of co-curricular and extra-curricular situations where the students from marginalized groups will succeed and prevent different types of learning stereotypes attached to marginalized students.

Subdomain 4. *All students achieve maximum results in line with their potential.*

There are 10 indicators in this subdomain related to the records, analysis of the achievements of the marginalized students, measures undertaken for their improvement, progress of the Roma students and reducing the differences in their achievements in relation to the other students.

The graph below shows the average school self-assessments in each subdomain.

GRAPH 12. *Self-assessment of the level of inclusiveness in the domain: Students' achievements*



The graph 13 shows that, in relation to the different subdomains of the students' achievements, there are no significant differences as a group. However, significant differences between the schools were visible in the separate school self-assessments. The smallest differences between the schools are observed in relation to the coverage of marginalized students.

When analysed separately, the lowest are the indicators that refer to Roma attendance and the (un) equal number of Roma students that have IEP.

DOMAIN 3. Learning and teaching

In the domain – Learning and teaching, the indicators are grouped in three subdomains.

Subdomain 1. *The school has prepared, in advance, the mechanisms for assisting teachers, parents and children in joint work to identify and help the students with special educational needs.*

The six indicators in this subdomain refer to the procedures and involvement of the educational staff in catering to the special educational needs, including the support for the students who are not educated in their mother tongue and advising for the further professional orientation of the marginalized students.

Subdomain 2. *The teachers adapt the curriculum, the lessons and the school activities to the needs of the children from different abilities and background.*

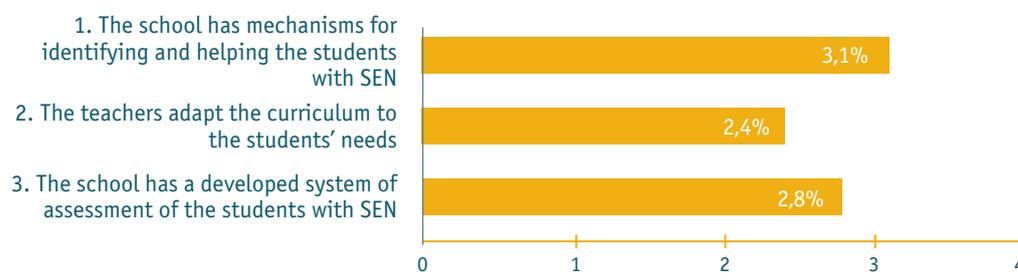
There are nine indicators in this subdomain and they refer to the adjustment of the contents and activities to the needs of the students with different abilities and background, individualization of teaching, provision of appropriate materials, and collaboration with relevant institutions for support of the specific needs and of the interethnic integrated education.

Subdomain 3. *The school has a developed system of diagnostic, formative and summative assessment of the students with special educational needs.*

The eight indicators refer to the different aspects of formative assessment, criteria for summative assessment, assessment of the students who are supported based on IEP and information for the parents about the students' learning.

The graph below shows the self-assessments of each of the mentioned subdomains.

GRAPH 13. *Self-assessment of the level of inclusion in the learning and teaching process*



The schools gave the best assessments in relation to the mechanisms for helping teachers, parents and children in the joint work for identifying and helping the students with SEN, and the lowest in adjusting the curriculum and the school activities to the needs of the students. The assessments on indicators for realization of the IEP are particularly low.

Same as in the other domains, the situation in this domain seems to be better in terms of establishment of mechanisms and policies, and much worse as regards the application of inclusive practices in the classroom.

DOMAIN 4. Support to students

Two subdomains are identified in the fourth domain, which are explicitly related to support to students.

***Subdomain 1.** The school modifies and adjusts its policy and practice in order to enable ALL children, (regardless of their background and abilities) to participate in the school and out-of-school activities.*

Seven indicators are defined and refer to the adjustment of the physical conditions in the school to the students' needs in terms of the school's accessibility and equipping classrooms with the proper supplies. Moreover, there are indicators for assessing the school collaboration with the parents, the resource centres and the other relevant institutions and organizations that provide support to children with disabilities/physical disability and from socially vulnerable groups. There are also indicators related to the existence of school procedures and practices for providing funds for helping the students from socially vulnerable families.

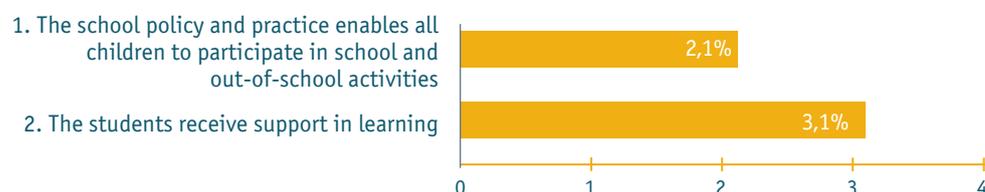
***Subdomain 2.** The students receive support for learning.*

The five indicators in this subdomain enable the assessment on whether the school has the mechanisms to help teachers, parents and children with identifying, accepting and assisting students with special educational needs. Moreover, the school may observe whether they are applying types of work that encourage the development of collaboration and communication among the students (students with disabilities, Roma students and other students in the classroom). The subdomain contains an indicator which refers to the fact whether the school has programmes and protocols which define the behaviours of children and adults as psychological and physical violence, as well as instructions for their prevention and management and whether they are strictly applied.

The graph below shows the average school self-assessments for the two subdomains.

The average assessment about the extent to which the school modifies/adjusts its policy to enable students to be actively engaged in the educational work and achieve the expected results is 2.1. According to the individual data (by schools), five of the seven schools have lower self-assessment in relation to the average assessment.

GRAPH 14. *Self-assessment on support for students*



The school self-assessment of the school policy in terms of the current level of support provided to students for learning is higher than the school self-assessment on the modification and adjustment in order to enable all children (regardless of their background and abilities) to participate in school and out-of-school activities. According to data by school, this tendency is seen in six of the seven project schools and points to the fact that the schools want to show that, despite the inflexibility of the school policy in terms of inclusiveness, they still manage, i.e. try to provide learning support to students (two schools gave the highest grade 4, i.e. the students in their schools receive learning support).

The process of modifying, i.e. becoming an inclusive school, implies a modification/changing of the school policy, i.e. its adjustment to be well suited to all students in the school. Every student, regardless of his/her background and ability, has the right to actively participate in the school and out-of-school activities. The data show that this domain should be improved in the further project activities.

SUBDOMAIN 5. School climate and relationships in the school

In the fifth domain, there are six subdomains in total.

Subdomain 1. *Diversity is respected and the collaboration between the students with different abilities, social, cultural and ethnic background is encouraged.*

Eight indicators are identified in this subdomain and they refer to the creation of a school climate/ambience for overcoming gender, ethnic, religious and other stereotypes and prejudices in relation to the cultural differences, abilities, physical disability, intellectual disability, etc.

Subdomain 2. *There is a mutual collaboration between the employees and students.*

The subdomain includes six indicators for self-assessment of the extent to which the school supports activities in which students help each other in learning and in other activities that help develop confidence, collaboration and friendship

and whether the teachers, as models of behaviour for the students, show mutual respect.

Subdomain 3. *The students and parents feel good at school.*

The seven indicators refer to the school openness to actively involve parents in school activities, organization of different types of activities with parents in order to overcome the stereotypes and prejudices on any grounds.

Subdomain 4. *The students and parents are adequately involved in the decision-making.*

The indicators refer to involvement of students from socially vulnerable groups (including the Roma students, as well as the students with special educational needs) in the work of the student community on every level, as involving parents from all social and cultural backgrounds (including Roma) in the Parents' Council and in the School Board.

Subdomain 5. *The students' and parents' rights are respected.*

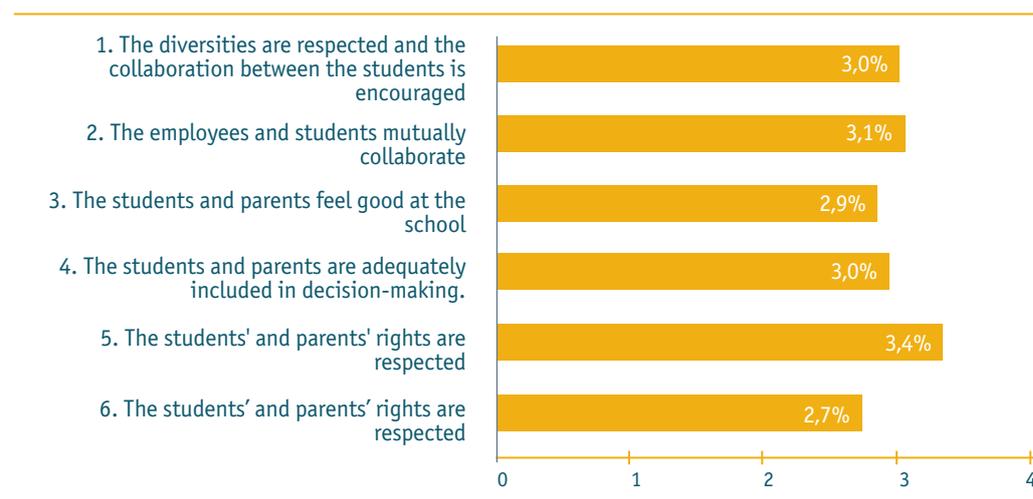
This subdomain contains four indicators which assess the extent to which the school is fostering an approach to developing strategies for prevention of a possible discriminatory attitude of teachers and other students towards Roma students and whether they react accordingly when this happens- whether school employees equitably and respectfully treat all students, irrespective of the gender, ethnicity, social background and abilities.

Subdomain 6. *The school collaborates with the local community on improving the situation related to the marginalized students and students with developmental disabilities.*

The results shown in graph 15, illustrate that in relation to the six subdomains, the schools gave the lowest assessment (average of 2.7) to the indicators in the subdomain *Collaboration with the local community on improving the situation of the marginalized students and students with developmental disabilities*. The schools are not satisfied with the collaboration with the non-governmental sector and this dissatisfaction was shared during the discussion in the focus group with the support staff from those same schools. The low self-assessment given to this subdomain, points to the fact that the schools do not collaborate with each other and do not exchange experiences and successful practices related to working with students with special educational needs.

A low average grade (2.9) is obtained from the summarized scores from all subdomains: *The students and parents feel good at the school* and *The students and parents are adequately involved in the decision-making*. The data point to the fact that the schools did not do enough for the parents of Roma students to show interest in their children’s learning and for working with the parents in overcoming the stereotypes. In addition to the active participation of the parents, there is also the problem with the active participation, i.e. involvement of the Roma students in the student community. The schools follow the traditional practice to involve the students in the representative bodies according to the percentage representation of the ethnic community in the school.

GRAPH 15. *Self-assessment of the level of inclusion in the domain: School climate and relationships in the school*



In this domain, the schools gave the highest assessment to the subdomain *The students’ and parents’ rights are respected* (3.4). The schools believe that the students’ rights are respected, i.e. the school employees equitably and respectfully behave towards all students irrespective of gender, ethnicity, social background and abilities. The data should be reviewed by the schools, i.e. they should link the data to the results which refer to the involvement of the students and parents in the decision-making process (from the previous subdomain).

As regards the subdomain *Diversity is respected and the collaboration between the students with different abilities, social, cultural and ethnic background is encouraged*, the average assessment is 3.02. Four schools have a lower than the average self-assessment. The indicators in this subdomain may be linked to the acquired experiences of the schools in the projects for multiethnic integration. The average assessment for the subdomain *There is a mutual collaboration*

between the employees and students is 3.05. According to the individual school data, this subdomain contains the greatest differences between the schools (the lowest self-assessment is 1.5 and the highest is 4).

DOMAIN 6. Resources

In the sixth domain, there are two subdomains that refer to the needed/necessary resources for learning and teaching, specific to the marginalized children.

Subdomain 1. *The funds and materials for inclusive education are provided.*

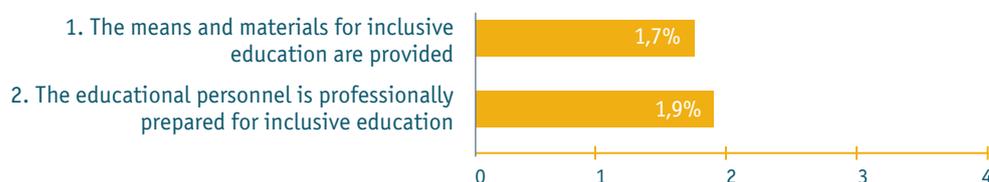
The indicators (three in total) refer to the extent to which the school possesses the needed assistive technology for students with disabilities and whether the students with special educational needs can borrow the teaching aids (games, books, educational software) for learning at home. Moreover, it is assessed whether the classrooms and lecture rooms are supplied with the appropriate teaching materials for learning the language and culture of the students of all ethnicities, including the Roma.

Subdomain 2. *The educational staff is professionally prepared for inclusive education.*

In terms of the educational staff as a resource, the indicators enable assessment of the training/preparedness of the support staff and teachers to identify and work with students with special educational needs and use assistive technology. The indicators also assess whether the school has an employee or a defectologist at their disposal to support the work with the students and whether the school has employed Roma teachers. The indicators enable the schools to see whether the educational staff is analysing and sharing the successful practice of supporting the students with special educational needs, including the Roma students.

According to the obtained data on the two subdomains, the self-assessment of the schools is the lowest (1.71) for the subdomain *The funds and materials for inclusive education are provided*, i.e. (1.89) for *The educational personnel is professionally prepared for inclusive education*. The schools assess that they neither have the adequate funds and materials for inclusive education, nor adequately trained educational staff at their disposal. As regards the existing resources – means and materials, the school with the dominant percentage of Roma students (above 90%) has the lowest assessment (grade 1).

GRAPH 16. *Self-assessment of the level of inclusion as regards the provision and use of resources*



The self-assessments confirm the situation as regards the preparedness of the teaching staff in the country for inclusive education.

DOMAIN 7. Administration, management and policy creation

The last domain includes six indicators which offer an overview to the extent to which the school takes inclusion into account (whether the school has an Inclusion team) and whether it is committed to a policy against discrimination on any grounds. The indicators verify whether the school documents (statute, developmental programmes) contain elements of inclusiveness and measures against discriminatory behaviour.

The average assessment for this domain is 2.80 – six schools out of the 7 in total have high self-assessments in this domain. If the assessments of individual indicators are analysed, (attachment 1), it can be noticed that the indicators that refer to the work of the Inclusion teams and the realization of the IEP are the lowest, while the indicators that refer to the inclusive policies are higher.

CONCLUSION

- ▶ The schools assess their inclusive policy in most domains quite highly (the average self-assessments are above the arithmetic average value of 2.5). The self-assessments, in almost every domain, differ significantly from one school to the other.
 - ▶ Every school has the lowest assessment in relation to the resources (material and staff) to accomplish successful inclusion.
 - ▶ In the domain of: Teaching plans and curricula, the most unfavourable situation is in the drafting of the IEP. It is probably due to the fact that the schools have not received any adequate training.
 - ▶ In the four subdomains of the Students' achievements, there are no great differences on the level of the entire group. However, there are significant differences between the schools.
 - ▶ In the domain of: Learning and Teaching, the school self-assessments are high in relation to the mechanisms for helping the teachers, parents and children in identifying and assisting the students with SEN, and they found themselves less successful in adjusting the curriculum and school activities to the students' needs.
 - ▶ The schools are more successful in providing learning support to the students than in including all students in different types of out-of-school activities.
 - ▶ In the domain of: School climate and relationships in the school - the school gave the highest assessment to the subdomain - The students' and parents' rights are respected.
 - ▶ The assessments of the administration, management and policy creation are also high, but the self-assessments are low in indicators for Inclusive teams work and realization of the IEP.
-

3. STUDENTS' ACHIEVEMENTS

The students' achievements in the domain of language literacy - reading comprehension and writing - and mathematical literacy were measured at the end of the first and second cycle of primary education. The literacy in both subject domains is considered crucial for the subsequent learning in other domains. The following UNICEF supported programmes are carried out in this regard: Language literacy in the early grades, Thinking mathematics in the early grades and the BED programme: Mathematical logic in subject teaching.

LANGUAGE LITERACY IN PRIMARY EDUCATION

Both reading and writing represent the greatest challenge for the teachers and students at the beginning of primary education. It is a unique challenge, particularly if the students are taught in a language they do not speak at home and are not familiar with, as is the case with the majority of Roma students.

The crucial significance of successful reading in early age, is the ability of the student, reader, to create, by himself, new information about what he/she is reading in order to get to the answers to the cognitive questions. In the process of reading until the end of the first cycle of primary education, the student, is expected to distinguish the different types of texts, the existence of context, different genres, different elements in one text. The student - reader continuously refers to the previous knowledge of the text and he/she is reading in order to create sense in the reading process. He/she also acquires a range of skills which enable easier learning. With the reading strategies, the student acquires abilities for cognitive, interpretative and semantic comprehension of the text he/she is reading. These three categories offer the reader guidance for successful learning.

Writing, in the first cycle of primary education, is the basis for the student to use a different method to express his/her thoughts, in addition to the verbal expression. It requires the student to organize the ideas and knowledge in a structured piece, which will translate into a written text understandable for those who read it. If the phrase "writing" is understood as teaching literacy to the individual and if this ability is emphasized as an ability to express your own knowledge through written texts, then it should be a common practice in the process of teaching and learning. Writing is an ability of the student to plan

(contemplate, choose, decide on how to write) and organize the writing of the chosen facts, ideas and knowledge about a certain notion, that will be arranged in one structured piece. That structured piece is translated into a written text that provides the opportunity to assess to what extent something is learned or how well was something taught.

MATHEMATICAL LITERACY IN PRIMARY EDUCATION

Throughout primary education, the students acquire knowledge and skills in mathematics. By learning numbers and the relationships between them, the students get to know their surroundings quantitatively. Counting is a complex process which is conducted in stages and it is the foundation for solving the basic problems of addition, subtraction, multiplication and division of whole numbers. The numbers and operations, which are studied in mathematics class, are organized in numeric-numeral systems, and each system offers the opportunity for simultaneous work both with numbers and with operations and the students focus on the structures and on the rules of this system. Every mathematical system, which is taught from early childhood until the ninth grade, is a part of a unique system which is represented by a number. Calculation requires the knowledge of algorithms, and the person should decide which to use, because each algorithm has its advantages and disadvantages. With the aim of mastering mathematic, the students should have good knowledge of numbers and operations and should master basic algebra, measures, space, data, ratio and proportion which are in the focus of the first and second cycle of primary education.

Mastering mathematics includes: conceptual understanding, knowing procedures and solving problems and it also includes additional provisions for reasoning, connecting and communicating. Mastering mathematics cannot be achieved by focusing only on one or two of these directions. The conceptual understanding refers to integrated and functional understanding of mathematical ideas, so the students know more than just isolated facts and procedures. They understand why a mathematical idea is important and in which contexts it is useful, they organize their overall knowledge and it enables them to perceive new ideas by associating them with what they already know. A clear sign of the existence of conceptual understanding is when the students are able to represent the mathematical situations in different ways, when they understand the different

representations and know how to use them for different objectives. One of the most important contexts, where the students apply procedural and conceptual knowledge and when they develop abilities related to everyday routine, is the solving of a problem situation with numbers or textual tasks.

3.1. STUDENTS' ACHIEVEMENT AT THE END OF THE FIRST CYCLE OF PRIMARY EDUCATION

3.1.1. STUDENTS' ACHIEVEMENTS ON THE TEST IN MOTHER TONGUE

METHOD OF MEASURING

The language literacy was examined with a compilation of tests which contained a test in the domain of Reading comprehension and test in the domain of Writing.

The test consisted of 13 requirements for reading and 11 requirements for writing.

For measuring the achievements of the students in the domain of Reading, the following 13 requirements were used: one long literary text with 6 requirements related to the content of the text, one short text with 3 requirements and 2 short literary texts with 4 requirements, out of which, one was related to the comparison between the characters from the two texts. For the purpose of following the text more easily, hereafter we will only use the phrase "task" in this report and it will refer to every individual requirement in the test.

For measuring the achievements of the students in the domain of Writing, we used an open-ended task (writing a text by using given words) and another closed-ended task which referred to improving the content of selected parts of a given letter. The domain of Writing had 11 requirements in total. The open-ended task in this domain was assessed with a list of criteria, which was established upon a reviewed sample of solved tests.

The obtained conclusions refer to the knowledge and abilities which are explicitly measured with the tasks in the test, and the test in reading and writing was the same both in Macedonian and in Albanian language.

3.1.1.1. Students' achievements on the test in reading comprehension and writing

The students' achievements are shown with the score percentile of the overall test and in the individual domains. Considering the Programme's objective, a special emphasis is placed on the comparisons between the achievements of the Roma students and students of the other ethnicities.

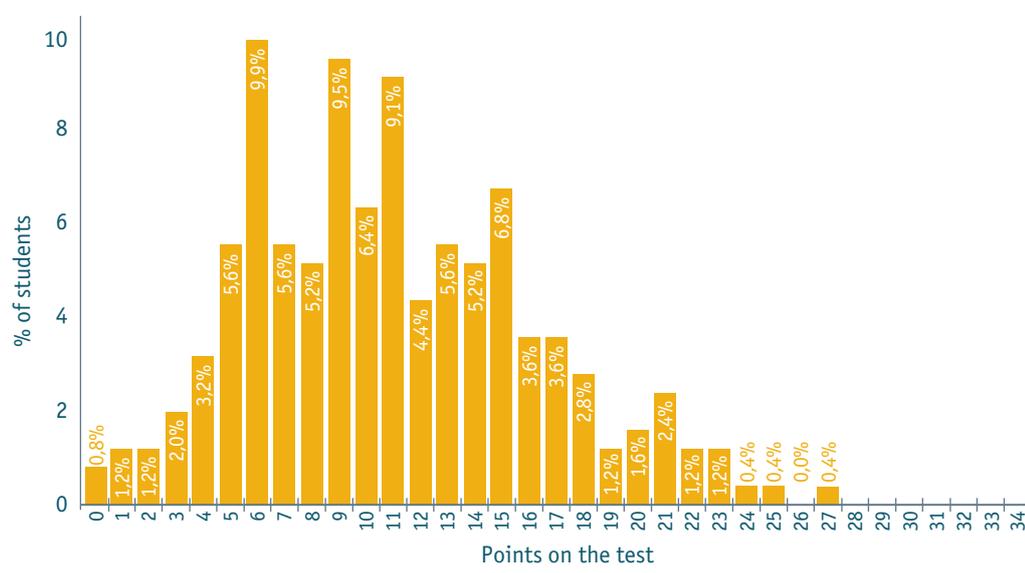
The achievements are shown with tables and graphically and accompanied by comments.

TABLE 11. Test score in reading and writing

NUMBER OF STUDENTS	NUMBER OF TASKS	MAXIMUM POINTS	AVERAGE POINTS	AVERAGE TEST SCORE
252	24	32	11	34,2 %

The total results on the test in mother tongue, i.e. the results obtained on the test in reading comprehension and writing, of all tested students in the fourth grade, show that the students achieved average score percentage of 34.16% – i.e. the average of 11 points of the possible 32 points. The data analysis of the number of achieved points, shown in the graph below, shows that the majority of students (60%) have up to 11 points. Out of the total number of 252 tested students, 2 students did not answer any of the questions, and the maximum achieved points on the test is 27 of the possible 32 – the result of only one student.

GRAPH 17. Results of all students on the test in reading comprehension and writing

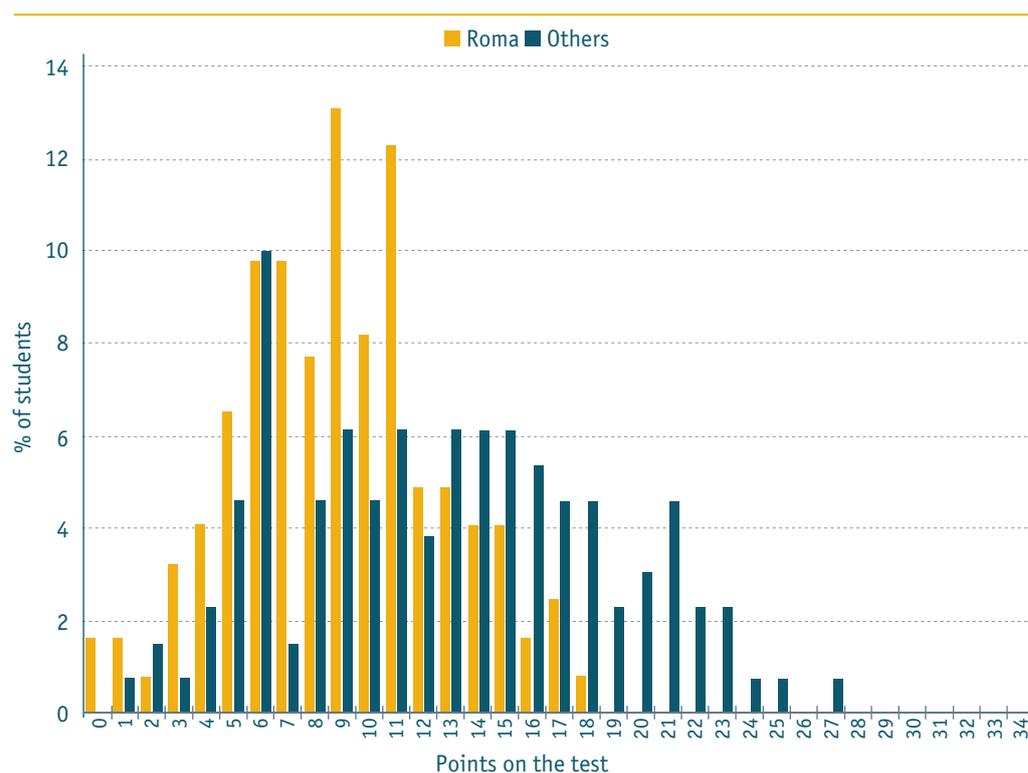


The Roma students have the average score of 28% on the overall test, while the score is significantly⁴¹ higher among the students of the other ethnicities and in the amount of almost 40%.

TABLE 12. Test score in reading and writing among the students of the other ethnicities

ETHNICITY	NUMBER OF STUDENTS	MAXIMUM POINTS	AVERAGE POINTS	AVERAGE TEST SCORE
Roma	122	32	9	28,0%
Other	130	32	13	39,9%

GRAPH 18. Results of the Roma students and the other students on the test in reading and writing



- Almost two thirds of the Roma students have a score on the overall test which is below the average (11 points), while this number among the other students is somewhat higher than a one third (37%).
- The range of the achieved points among the Roma students is from 0 to 18, while among the other students that range is from 1 to 27.

⁴¹ There is a statistically significant difference at the level of 0.01

The percentage of Roma students who did more than half of the tasks is very low (3%), while among the other ethnicities this percentage is 26%.

CONCLUSION

- ▶ The results on the test in reading and writing are lower compared to the expected results prescribed in the third grade curriculum.
- ▶ The average task score among the Roma students is by 12 percentage points lower than the average score among the other ethnicities. The difference is statistically significant.

3.1.1.2. Students' achievements on the test in reading

The students' achievements in the domain of reading comprehension are of significant value for understanding the text from each specific domain of social and natural sciences. It is considered as a necessary basis for all types of learning and intellectual progress.

Since the intention was to test the students' reading level, the test included texts which required the students: to compare the procedures, to identify the characteristics and feelings of the characters; to make conclusions which explain the relationship between the intent, actions and events, as well as to support the conclusions with the facts from the text; to organize the text in a logical order; to make conclusions on the basis of the relationships which are contained in the text; to offer their own opinion and to propose ideas for a title of the given text.

TABLE 13. *Score on the test in reading*

NUMBER OF STUDENTS	NUMBER OF TASKS	MAXIMUM AVAILABLE POINTS	AVERAGE POINTS	AVERAGE TEST SCORE
252	13	14	7	51,6 %

The students' results on the test in reading comprehension, for all students, are 51.56%. The students' achievements are distributed normally, where the majority of students (46%) have between five and eight points. Two students did not provide answers to any of the test questions, and 4 students achieved the maximum 14 points.

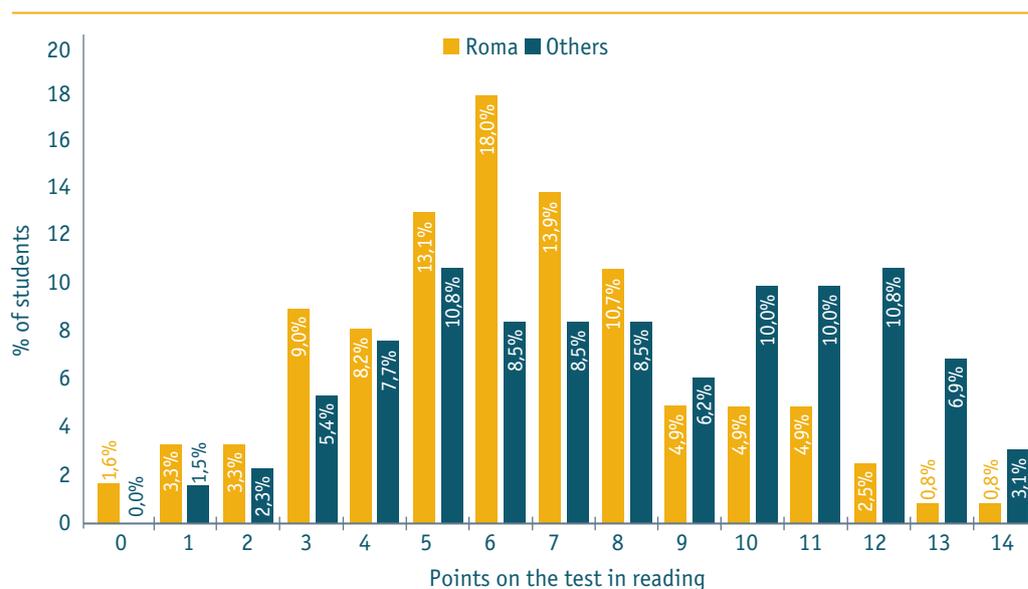
The results on the test in reading comprehension by subgroup: Roma students and students of other ethnicities, are shown in the table below, at the level of the test and on the graph according to the number of points on the test.

TABLE 14. Score on the test in reading among the students of other ethnicities

ETHNICITY	NUMBER OF STUDENTS	MAXIMUM AVAILABLE POINTS	AVERAGE POINTS	AVERAGE TEST SCORE
Roma	122	14	6,25	44,7 %
Other	130	14	8,12	58,0 %

The Roma students, on the test in reading comprehension, had the average score of 44.7%, while the students of other ethnicities had the score of 58%, which is a significantly⁴² better result.

GRAPH 19. Results of the Roma students and students of other ethnicities on the test in reading comprehension



- The majority of Roma students (70%) have half or slightly less than the total number of available points on the test in reading, while among the students of other ethnicities that percentage is 45%.
- Only 9% of the Roma students have more than 10 points, which would be a greater achievement, while 40% of the students of other ethnicity have achieved more than 10 points.

⁴² There is a statistically significant difference at the level of 0.01

CHARACTERISTICS OF THE ANSWERS ON THE TASKS IN THE TEST IN READING

The achieved average results on the test in reading comprehension, offer an overview of the students' ability to provide answers to different types of tasks. The different types of texts in the test are a result of the different types of requirements because the analysis is specific to the type of the text.

Stories and a narrative text were used to assess the literary objective, as well as the extent to which the students can draw facts and connect them to a new situation. The 13 tasks required the students to choose a correct answer from the offered, to write a short reply or to write an explanation of the chosen answer.

In the multiple-choice tasks, regardless of the type of the text, all students have achieved a high score percentage which is in the amount from 36% (among the Roma students for the task 3.1) to 83% (among all students for the task 2.3). The table below provides the data on the score on the multiple-choice tasks (the tasks in the table have the same number as in the test for the students).

TABLE 15. *Score on the multiple-choice tasks in the test in reading*

TASK NO.	TASK DESCRIPTION	TASK SCORE		
		All students	Roma	Others
1.3.	Foreseeing what would happen in a given story	51 %	37 %	65 %
2.1.	Establishing a literary type	59 %	43 %	74 %
2.2.	Making comparisons of the texts	53 %	54 %	52 %
2.3.	Making comparisons of the characters in texts	83 %	83 %	83 %
3.1.	Explicit information from a text	47 %	36 %	57 %
3.2.	Implicit information from a text	46 %	43 %	50 %
3.3.1.	Implicit information from a text	77 %	76 %	78 %
3.5.	Dividing words	54 %	46 %	62 %

The students show greatest achievements on several tasks that require identification of explicit or implicit information in the text, which are necessary to answer the task in the test.

Table 16 provides the data on the task score for which the students had to write down a short answer related to the read text (the tasks in the table have the same number as in the test for the students).

TABLE 16. *Score on the open-ended tasks in the test in reading*

TASK NO.	TASK DESCRIPTION	TASK SCORE		
		All students	Roma	Others
1.1.	Understanding the order of events	40 %	32 %	48 %
1.2.	Drawing a direct information from the text	68 %	66 %	71 %
2.4.	Drawing the main idea - giving a title to the text	65 %	46 %	83 %
3.3.2.	Explanation of their own answer	35 %	27 %	42 %
3.4.	Explanation of their own answer as regards the implicit information	42 %	37 %	47 %

The results of the open-ended tasks (for which the students had to write down a short answer) related to the read text, are somewhat lower than the tasks for which the students were asked to choose the correct alternative, and the score percentage of all students is between 35% and 68%.

It can be noticed, from the analysis of the achievements, that the students have lower achievements when they are asked to chronologically organize the events in the text. 32% of the Roma students and 48% of the students of other ethnicities answered this task correctly (task 1.1).

Greater achievements are obtained when they are asked to think of a title of the text and offer explanation of their opinion: 46% Roma students and 83% students of other ethnicities (task 2.4).

The majority of the Roma students (66%) gave the correct answer to the task 1.2, where the requested answer was mentioned in a dialogue in the given text.

There is also a specific percentage of Roma students who were successful in explaining their answer to the task 3.3.2 (in Table 16), and they chose the answer to the task 3.3.1 (in Table 15). One part of the task, with a choice of offered answers, was done correctly by 76% of the Roma students, and the correct explanation of their choice was given by only 27% of the students.

CONCLUSION

- ▶ The results on the test in reading are at the level of the prescribed results in the curriculum for the third grade.
- ▶ The average task score among the Roma students is by 11 percentage points lower than the average score among the other ethnicities. The difference is statistically significant.
- ▶ There are a small number of Roma students who have greater achievements on the test in reading compared to the other students.
- ▶ All students were more successful in the multiple-choice tasks compared to the tasks which required the students to compose and write down the answer.
- ▶ The tasks which required the students to compare the characters in the text were the most successful - 83% (multiple-choice tasks), and least successful were the tasks which required an explanation of the students' own answer - 35%.

3.1.1.3. Students' achievements on the test in writing

The achieved average results on the test in writing offer an overview of the students' ability to write different types of written expression and to apply the standard linguistic norms on the test. These tasks were used to check the objectives of the curriculum domain of Expression and creation: whether the students are able to write a text for practical purpose and whether they can create a written text upon given directions - given words to write a short story.

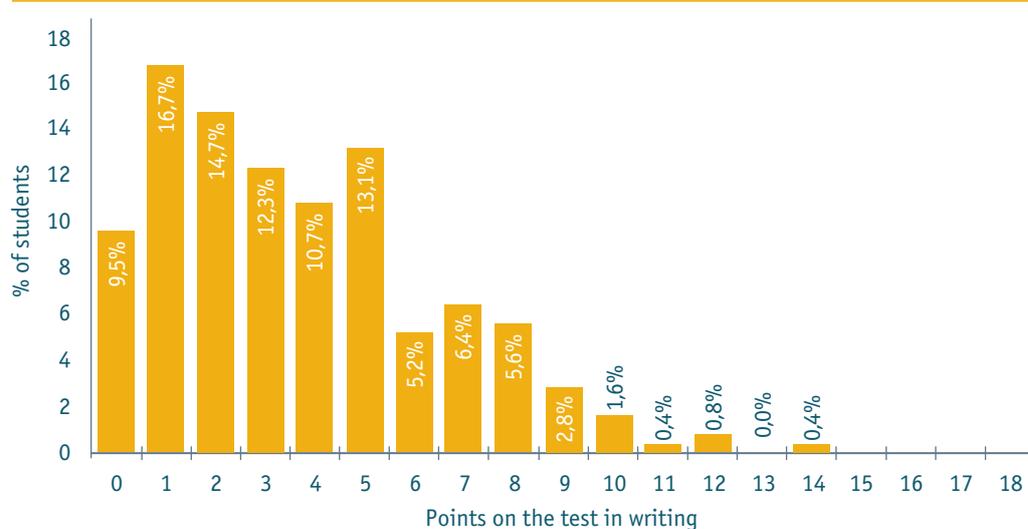
With this part of the test - through the ability to write - it is possible to understand the student's literary ability, power of observation, contemplation, systematization and generalization, skill and proficiency in organizing and expressing his/her thoughts and feelings for his/her clear and precise linguistic formulation.

TABLE 17. *Score on the test in writing of all tested students*

NUMBER OF STUDENTS	NUMBER OF TASKS	MAXIMUM AVAILABLE POINTS	AVERAGE POINTS	AVERAGE TEST SCORE
252	11	18	3,7	20,6 %

The average score of all students on the test in writing is 20.6%, which is very low compared with the curriculum requirements and test requirements. Almost 10% of the students did not gain a point, and 31% gained only 1 or 2 points. Only 3% of the students gained more than half of the available points (above 9 points), but no student gained more than 14 points.

GRAPH 20. Results of every student on the test in writing



The table and graph below show the score on the test in writing of the students of different ethnicities.

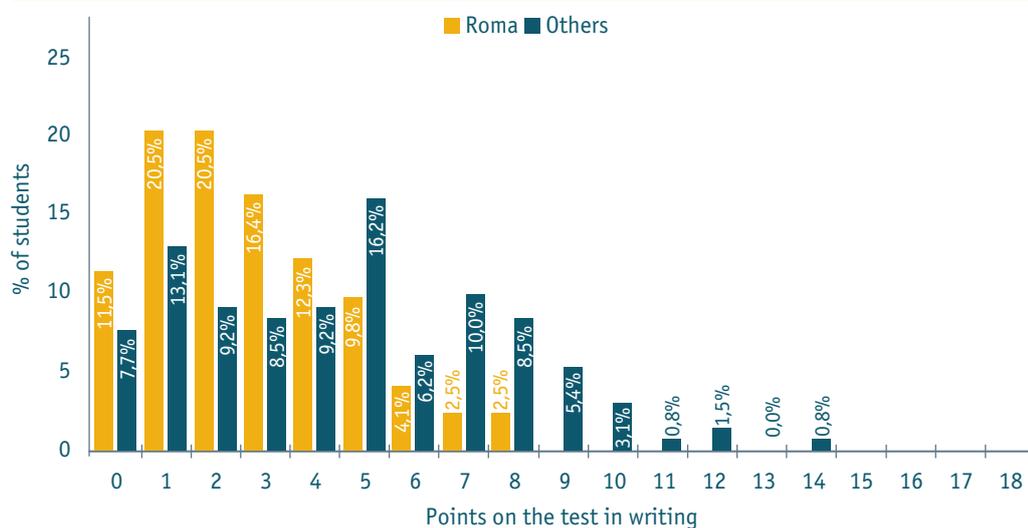
TABLE 18. Score on the test in writing of the students of different ethnicities

ETHNICITY	NUMBER OF STUDENTS	MAXIMUM AVAILABLE POINTS	AVERAGE POINTS	AVERAGE TEST SCORE
Roma	122	18	2,7	15,0 %
Other	130	18	4,7	25,9 %

The score on the tasks in writing among the Roma students is 15% (the average 2.7 points per student from the maximum available points - 18). This score is by 11 percentage points⁴³ higher (26%) among the students of other ethnicities, compared to the Roma students, but at the same time it is a very low result in general (of the available 18 points, only 4,7 points were gained).

⁴³ A percentage point (pp) is the unit for the difference of two percentages.

GRAPH 21. Score on the test in writing of the students of different ethnicities



- Each Roma student gained less than a half (less than 9) of the available points on the test, while only 12% of the other students gained half or more points.
- The highest result among the Roma students is 8 points (achieved by 3 students), and the highest result among the other students is 14 points (achieved by 1 student).

CHARACTERISTICS OF THE ANSWERS ON THE TASKS ON THE WRITING TEST

The writing tasks consisted of a one given text – letter and a task to improve it by answering multiple-choice tasks. The results, in the table below, show that all students recognize a good sentence structure to a certain degree, as well as the adequate composition of a text (in this instance the letter), when they are asked to chose one of the offered answers so as to improve the structure of specific sentences, the lexis and composition of the letter (expressing the aim of the letter). The percentage of correct answers is low and ranges from 27% to 33%. The task that required finding of an adequate use of a word in a sentence was done to a greater degree (51%).

Compared to the other students, the Roma students achieved poor results on the task which required the student to chose one of the offered words and use it in a sentence as a substitute of the given word, as well as in the task which required the students to identify the sentence which is most adequate to finish the entire text.

TABLE 19. Score on the multiple-choice tasks in the test in writing

TASK*	TASK DESCRIPTION	TASK SCORE		
		All students	Roma	Others
1.1.	Improving the structure of a sentence	51 %	52 %	50 %
1.2.	Improving the lexis	33 %	25 %	40 %
1.3.	Construction of a sentence	27 %	27 %	26 %
1.4.	Composition of a text	27 %	23 %	32 %

* the tasks have the same number as in the test.

The students achieved very poor results on the task for writing a composition upon given words (a short story). The criteria for assessment were drafted in order to objectively assess the written compositions and the quality of each work. The students were able to gain 0, 1 or 2 points on the given criteria. The following table shows the percentage of students according to the points they achieved on each criteria.

TABLE 20. The achieved success on the different writing criteria

TASK DESCRIPTION / CRITERION	TASK SCORE								
	ALL STUDENTS			ROMA			OTHERS		
	points			points			points		
	0	1	2	0	1	2	0	1	2
Composition	92 %	8 %	0 %	98 %	2 %	0 %	86 %	14 %	0 %
Clarity of the composition	49 %	48 %	3 %	61 %	38 %	1 %	38 %	57 %	5 %
Use of given words	43 %	53 %	4 %	57 %	43 %	0 %	31 %	61 %	8 %
Punctuation	68 %	32 %	0 %	84 %	16 %	0 %	52 %	47 %	1 %
Orthography	61 %	39 %	0 %	71 %	29 %	0 %	51 %	48 %	1 %
Sentence construction	73 %	27 %	0 %	90 %	10 %	0 %	55 %	44 %	1 %
Originality	90 %	9 %	1 %	97 %	3 %	0 %	84 %	14 %	2 %

From the table, it can be seen that a very small number of students fulfilled the criteria on a higher level and gained 2 points, and almost half or more students (between 43% and 92%) did not fulfil the minimum requirements of specific criteria for quality written composition. As regards the criteria, the Roma students are less successful compared to the students of other ethnicities.

- For every student, the easiest criterion to fulfil, even on the basic level, was: clarity of the composition, i.e. they understand the topic they should write about. More than half of the students, 57% fulfilled this criterion, even on a minimal level, and 43% of the Roma students achieved the basic level, no one achieved the higher level; while among the other students, 61% achieved the basic level and 8% achieved the higher level.
- The students were relatively successful in: use of given words in the composition. In order to write the text - a short story, more than half of the students used the majority of the given words, but only a small number of students (4%) were successful in using every given word.
- The students show the lowest achievements in formulating the composition. Extremely low number of students (8%) has a well-thought introduction, main plot and conclusion, and no student was successful in making a logical transition between those segments. They read the writing directions only partially or not at all.
- In addition, 90% of the students were unable to write compositions with the necessary level of originality.
- About a third of the students were successful in achieving the basic requirements for using orthography, punctuation and sentence construction.

In the tests of the Roma students, within the section for writing, it was found that some students know the orthography of the words, but they also have a problem with connecting the words in a sentence and found it difficult to create a text using words and sentences.

CONCLUSION

- ▶ The results on the test in writing are significantly below the expected level of ability for written expression at the end of the third grade.
- ▶ The average test score is 21%. Among the Roma students the score is 15% lower, and among the other ethnicities the score is 26%. The difference is statistically significant.
- ▶ There are a small number of students who have greater achievements on the test in writing, and there are no Roma students among them.
- ▶ All students were significantly more successful in the multiple-choice tasks compared to the task for writing a text upon given words and fulfil the criteria for a good written composition.
- ▶ The following criteria were fulfilled more successfully: use of given words in the text and clarity of the composition. The basic requirements for a good composition and originality were fulfilled by less than 10% of the students. It points to the fact that a very small number of the students are able to meaningfully connect the segments in the text (98% of the Roma received 0 points).

3.1.1.4. Relationship of the results on the test in reading and writing with specific socio-cultural variables

Many studies⁴⁴ have shown that the socio-cultural background and exposing the children to activities related to reading are crucial factors for the creation of reading habits and greater achievements in reading comprehension. Therefore, other than for offering a better explanation of the achieved results, the students were asked about their family experiences related to reading activities in the preschool period, as well as about their preparedness before commencing school.

44 I.V.S. Mullis, M.O. Martin, A.M.Kenedy, P. Foy, PIRLS 2006 International Report. Chesnut Hill, MA: Boston College, pg. 106

METHOD OF MEASURING

The data on the circumstances and habits in the family of the tested students, which refer to language literacy, were collected using a short questionnaire that was filled out by the students at the end of the testing.

9 questions were used to collect data on:

- Socio-economic characteristics of the family;
- Approximate number of books in the family;
- Activities within the home related to reading;
- Language spoken within the home;
- Knowledge of Macedonian language before commencing school;
- Knowing reading before commencing school.

SOCIO-ECONOMIC STATUS OF THE PARENTS

The characteristics of the family are the most important cause of disparity in the educational results of the students. The families that have good living conditions provide better support for learning both at school and at home. The parents who have better education are more present in the family, with daily instructions for their children's learning, as well as with the constant directions for involving the children in different school activities.

The table below shows the achievements of the students whose parents have completed a certain level of education (primary, secondary and higher).

TABLE 21. Results on the students' test according to the education of the parents

EDUCATION OF THE PARENTS	COMPLETED 4TH GRADE	COMPLETED 8TH GRADE	SECONDARY	HIGHER
	Average score percentage of the test			
Mother	27,3	32,9	45,1	34,4
Father	27,8	30,2	41,6	37,2

- The students whose mothers and fathers have completed more than primary education, have greater achievements on the test in reading and

writing compared to those students whose parents have completed only primary education.

- The relationship between the education of the parents and the results on the test in reading and writing is not linear. The students whose parents have completed secondary education have the greatest achievements (mother - 45% test score and father - 42% test score).

TABLE 22. *Results on the student’s test according to the employment of the parents*

EMPLOYMENT	EMPLOYED		UNEMPLOYED	
	Number of students	Average score percentage of the test	Number of students	Average score percentage of the test
Mother	144	35,9	144	35,7
Father	194	37,3	35	28,5

As regards the data on the employment of the parents, there is no significant difference in the achievements of students whose mothers are employed compared to the students whose mothers are unemployed. The situation is different as regards the employment of the fathers, i.e. it is related to their children’s achievements. The students whose fathers are employed have by 8% higher score on the test in reading and writing.

EDUCATIONAL RESOURCES IN CHILDREN’S HOME

The studies⁴⁵ show that the success of the students, in specific educational domains, is closely related to the availability of educational resources in children’s home.

In general, the students from families who have more resources for learning achieve better results in reading comprehension.

To improve the reading skills and to acquire new knowledge, the students have to read a lot. The students should read something that is adequate to their needs and interests. The family is a very important factor for developing the reading skills of the students. In order to encourage their desire to read, the family should stimulate the interest in reading, pass on the reading enthusiasm and point out the true worth of reading. The number of books in the family is

45 I.V.S. Mullis, M.O. Martin, A.M.Kenedy, P. Foy, PIRLS 2006 International Report. Chesnut Hill, MA: Boston College

an indicator that is often used for the reading habits in the family, as well as the availability of books that the student could read. The data on the number of books in the family and the students' achievements in reading and writing are shown in the table below.

TABLE 23. *Number of books in the home and achievements on the test in reading and writing*

NUMBER OF BOOKS IN THE HOME	NUMBER OF STUDENTS	AVERAGE TEST SCORE
0–10 books	58	33,6 %
11–25 books	77	42,3 %
26–100 books	34	38,8 %
101–200 books	14	35,7 %
More than 200 books	30	26,7 %

The only significant differences can be seen in the achievements of the students who have up to 10 books at home and those who have between 11 and 25 books. The obtained findings are not in accordance with the correlations which are obtained with the international measurements of reading.

There is an interesting data that the greatest achievements belong to the students who have more than 200 books at home. There are indications that these students might have provided false information.

SUPPORT FROM THE FAMILY

With reference to the interrelatedness between the support from the family and the achievements in Macedonian language, the students were asked to answer questions on: how much they read, whether they discuss about the book they read with a family member, whether the adults are helping them with their homework in Macedonian/Albanian language, or whether they discuss about what they have learned on the classes in Macedonian/Albanian language.

The family is very important for monitoring the progress of the students and for development of individual abilities for reading, as well as for acquiring reading habits. The indicators for the support from the family and the students' achievements on the test are shown in the table below.

TABLE 24. *Activities related to reading at home and the achievements on the test in reading and writing*

SUPPORT FROM THE FAMILY	ALMOST NEVER		SOMETIMES		OFTEN	
	Number of students	Average test score	Number of students	Average test score	Number of students	Average test score
They read the books together	19	26,2 %	68	43,8 %	80	36,4 %
The adults help them with their homework in Macedonian/ Albanian language	55	37,6 %	49	41,0 %	49	37,1 %
The tell their family members what the learned at school, on the classes in Macedonian/ Albanian language	16	34,0 %	35	40,3 %	94	41,2 %

In general, according to the students' answers, the parents or the adults in the family often devote some of their time, during the week, to listen to their children read or to discuss with them about what they are learning on the classes in Macedonian/Albanian language.

The average task score among the students who often read books together with their family members is significantly higher. The difference in the test score between those who never read and those who read every day is 10%.

The help with the homework in Macedonian/Albanian language and the practice of the students to discuss with the family what they have learned at school in Macedonian/Albanian language classes are not related to the achievements on the test in reading and writing.

KNOWLEDGE OF THE LANGUAGE OF INSTRUCTION

Part of the Roma students, who attend classes in Macedonian and Albanian language of instruction, are not sufficiently familiar with the language of instruction, particularly if they speak Roma language at home.

It was assumed that it might have influence on the poor achievements in reading and writing. The test achievements, according to the language which is mainly spoken at home, are shown in the table below.

TABLE 25. *Language spoken at home and achievements on the test in reading and writing*

LANGUAGE SPOKEN AT HOME	NUMBER OF STUDENTS	AVERAGE TEST SCORE
Roma	48	29,2 %
Macedonian	118	39,5 %
Albanian	60	33,8 %
Serbian	3	15,6 %
Other language	3	26,0 %

It can be noticed that the students who regularly speak the Roma language at home, have significantly lower achievements compared to the students who speak Macedonian or Albanian at home, i.e. use the language of instruction at home.

As regards the level of knowledge of Macedonian/Albanian language of the students with Roma mother tongue, when they started first grade, the results are the following: the students who had poor understanding and difficulties in speaking Macedonian/Albanian had the average task score of 32.9%, which is similar to the score of the students who understand, but have difficulties in speaking the language - 31.4%, and those who have good understanding of Macedonian/Albanian and who speak the language, have the score of 36,4%.

PRIOR KNOWLEDGE OF THE STUDENTS AT THE ENROLMENT IN THE FIRST GRADE

It was assumed that the prior knowledge of reading, at the time of enrolling in the first grade, will be related to the achievements in reading and writing at the end of the third grade.

The abovementioned assumption was not confirmed, we have even obtained some opposing data: the students who answered that they only knew letters had higher results on the test compared to the students who knew how to read and write. The data are shown in the table below.

TABLE 26. *Prior knowledge of the students at the time of enrolling in the first grade and achievements on the test in reading and writing*

PERCENTAGE OF STUDENTS ACCORDING TO THEIR PRIOR KNOWLEDGE BEFORE COMMENCING SCHOOL							
They knew some letters		They knew every letter		Read and wrote words		Read sentences	
Number of students	Average test score	Number of students	Average test score	Number of students	Average test score	Number of students	Average test score
108	39,5 %	52	35,6 %	41	27,5 %	20	28,0 %

CONCLUSION

- ▶ The students whose parents have completed more than primary education have greater achievements, and the parents of the Roma students mostly have primary education or lower level of education.
 - ▶ The students whose fathers are employed have greater achievements compared to the students whose fathers are unemployed. This ratio does not exist with the issue of the mothers' employment.
 - ▶ If the language of instruction is generally spoken in the home, the students' achievements are greater. The students, who speak the Roma language at home, have poorer achievements in reading and writing.
 - ▶ The knowledge of the language of instruction before commencing school is not related to the test results at the end of the first cycle of education.
 - ▶ The number of books in the home is not linearly related to the achievements in reading and writing.
 - ▶ The students whose adults were reading to them or who were reading together with adults have greater achievements in reading and writing.
 - ▶ The answers of the students about the level of help from the parents with learning and with homework, as well as the parents' interest in what the child has learned on the Macedonian/Albanian language classes are not related to the achievements in reading and writing.
 - ▶ The prior reading knowledge, before commencing first grade, did not contribute to better achievements in reading and writing at the end of the third grade.
-

3.1.2. STUDENTS' ACHIEVEMENTS ON THE MATHEMATICS TEST

METHOD OF MEASURING

The assessment of the students' achievements is based on the achieved results on the tasks that measure conceptual and procedural knowledge, understanding and application of natural numbers, the four basic operations and their properties, as well as solving word problems and problems.

The test for students consisted of 21 requirements, distributed in 19 tasks, which measure the knowledge and skills in the domains of:

- Concept of number – 5 requirements;
- Operations and properties of operations – 11 requirements;
- Problem situations – 5 requirements.

For easier understanding of the text given hereafter, which describes the test results, only the phrase "task" will be used in the Report and it will refer to both the tasks and the requirements in the test.

The students' achievements are shown with the score percentile on the overall test and in the abovementioned individual domains.

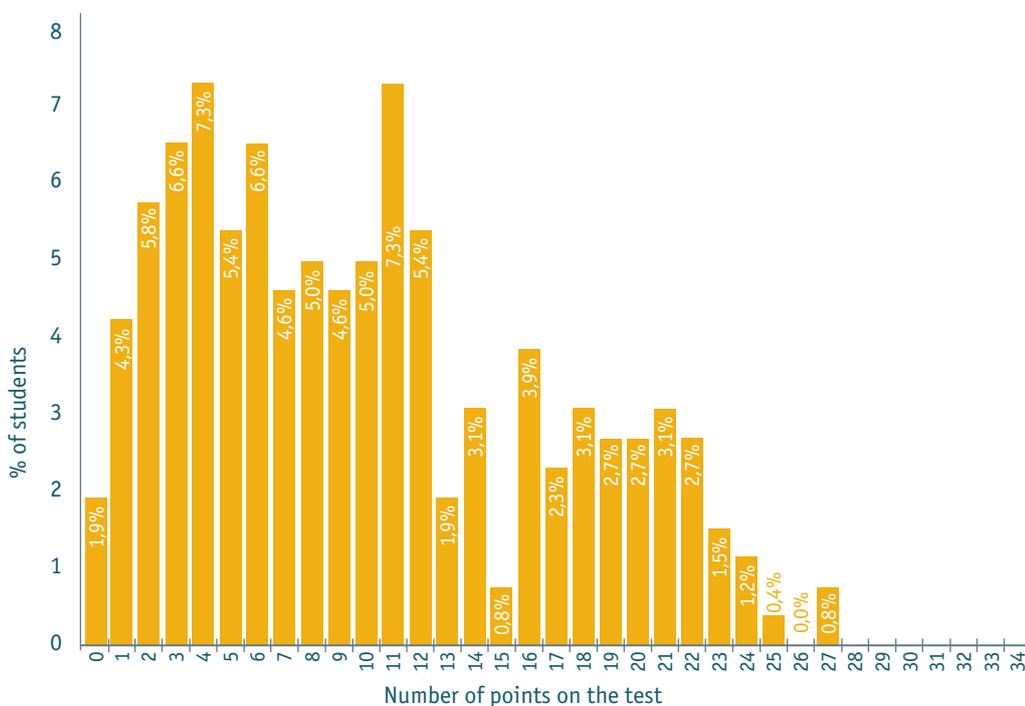
Considering the Programme's objectives, as for the language literacy, the emphasis in the presentation of the results in mathematics is placed on the comparisons of the achievements of the Roma students and the students of other ethnicities. The achievements are shown with tables and graphically and accompanied by verbal commentaries.

3.1.2.1. Students' achievements on the overall test in mathematics

The average result (number of gained points) of the students who took the test is 10.02 (the maximum available are 34), i.e. the average test score percentile is quite low - 29%.

The graph below shows the achievements of all tested students on the overall test, according to the number of points gained.

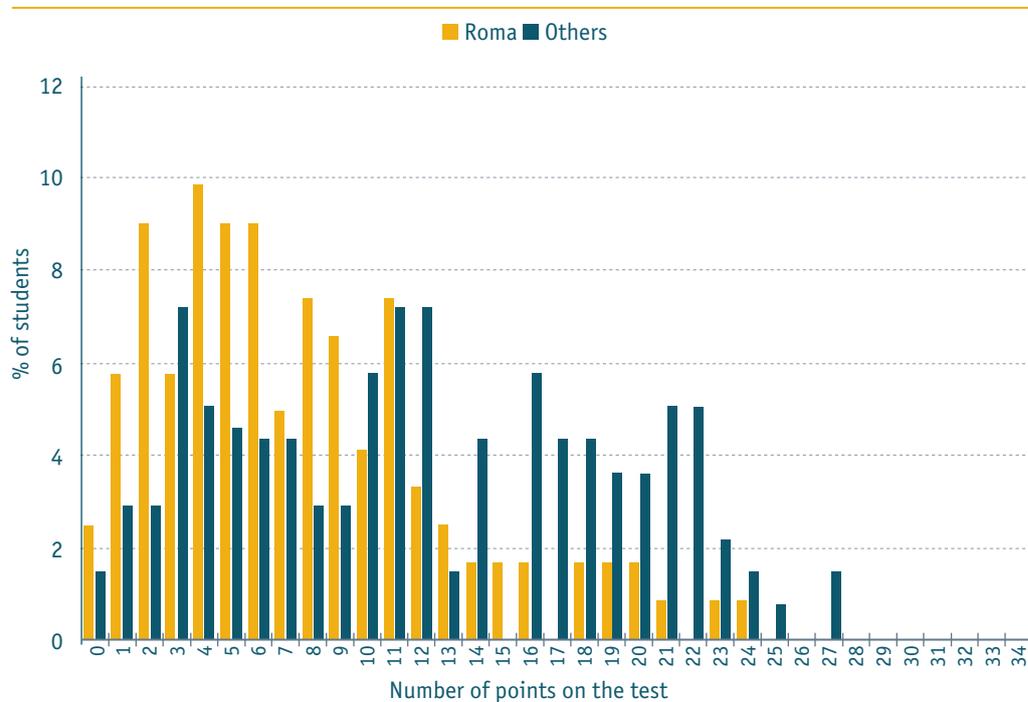
GRAPH 22. Result of all students on the mathematics test



According to the successful solving of the test, two groups can be identified: one, a larger group, which had lower results on the test (they have gained less than 13 points) and the other, a smaller group, with the students who have gained between 13 and 27 points. No students have gained more than 27 points (i.e. the test score is more than 80%).

The graph below shows the comparative data on the achievements of the Roma students of and the students of the other ethnicities.

GRAPH 23. Results of the Roma students and the students of other ethnicities



The comparative data show that the Roma students have significantly⁴⁶ lower results on the test in mathematics compared to the students of other ethnicities.

- The average test score among the Roma students is 22% (the average number of points is 7.6), and among the other ethnicities, the average score is 36% (the average number of points is 12.2).
- The highest result among the Roma students is 24 points (achieved by 1 student), and among the other students, the highest result is 27 points, which was achieved by 2 students.
- The majority of Roma students have 4 points, and among the other ethnicities, the majority of students have a result of 3 points, 11 and 12 points.

CONCLUSION

- ▶ The test results are lower than the expected results prescribed in the curriculum for the end of the first cycle of education.
- ▶ The average task score among the Roma students is by 14 percentage points lower than the average score of the other ethnicities. The difference is statistically significant.

⁴⁶ There is a statistically significant difference at the level of 0.01

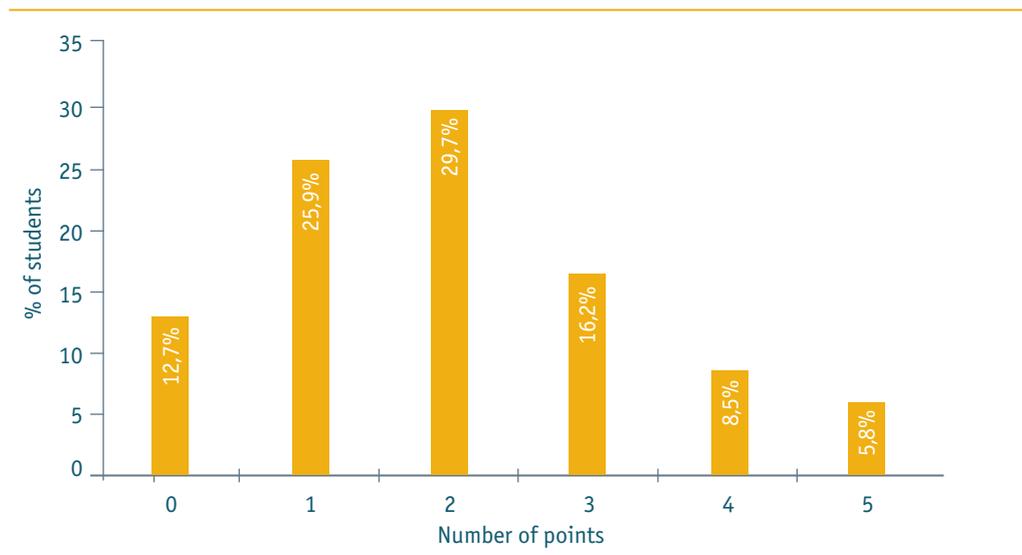
3.1.2.2. Students' achievements on the test in individual domains and types of tasks

The test contained tasks grouped in three domains. The tasks from each domain were numerical, graphical and textual. The achievements were analysed by domains and types of tasks.

STUDENTS' ACHIEVEMENTS ON THE TASKS FROM THE DOMAIN OF: NUMBERS

The average results of the students in the domain of Numbers, is 2.04 (the maximum available result is 7), i.e. the average score percentile is quite low – 29%. More than half of the students achieved the result of only 1 or 2 points. No student has achieved the maximum result in this domain, and only three students have gained 6 points.

GRAPH 24. Results of all students in the domain: Numbers



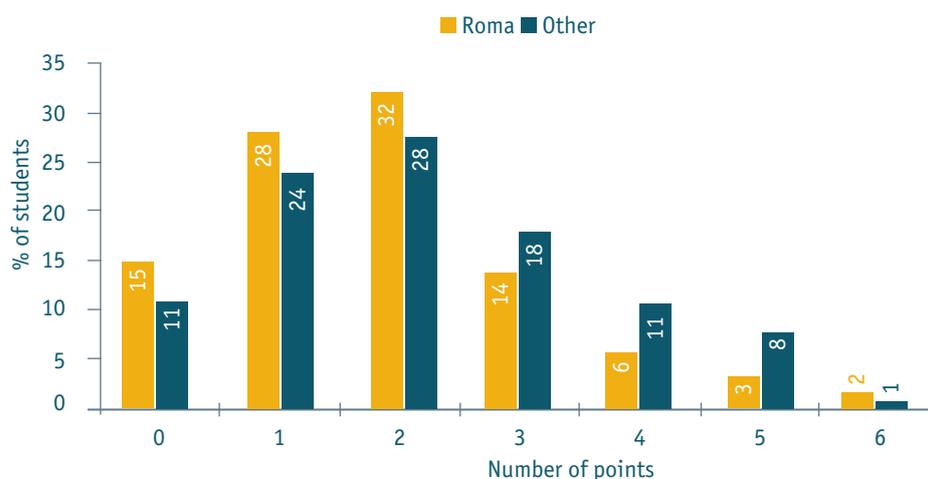
Graph 25 shows the comparative data on the achievements of the students of Roma ethnicity and the students of other ethnicities. According to the data, the Roma students have significantly⁴⁷ lower achievements on the tasks in the domain of Numbers compared to the students of the other ethnicities.

- The average task score in the domain of Numbers among the Roma students is 26% (the average number of points is 1.84), and among the other ethnicities, the average score is 32% (the average number of points is 2.2).

⁴⁷ There is a statistically significant difference at the level of 0.01.

- The highest result, both among the Roma students and the other students, is 6 points. This result was achieved by only 2 Roma students, and by only one student from the other ethnicities.
- Among both groups, the majority of students have the result of 2 points.

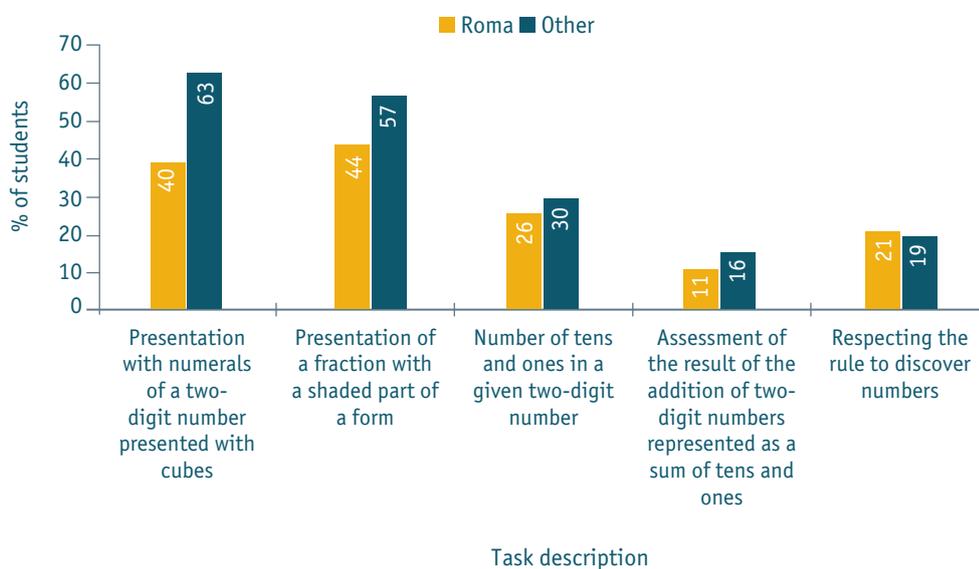
GRAPH 25. Results of the Roma students and students of the other ethnicities



The graph below shows the percentage of correct answers to each of the tasks in the domain of Numbers, comparatively for both groups of students.

The presented data show that the most difficult task for the students was the task which required them to make an assessment of the result of the addition of two-digit numbers represented as a sum of tens and ones. The students who gave the correct answer made the accurate assessment that the number 29 is closer to 3 tens, and the ones (5 and 6) of the other two numbers make about 1 ten. The other students mostly assessed that the number 29 is close to the number 20, while during the assessment of the other ones in the two-digit numbers (9, 5 and 6); the number 9 was not considered as close to one ten and they circled the other 10 ones.

GRAPH 26. Achievements of the Roma students and students of the other ethnicities by tasks



The students gave specific answers to the task to determine the remaining number of ones in a given two-digit number, when part of the tens are given.

The students' answers to this task indicate the teaching method. Namely, 26% of the Roma students, i.e. 30% of the students of other ethnicities answered correctly (i.e. 15 should be written instead of the question mark). However, 36% of the Roma students and 50% of the students of the other ethnicities answered that the number 5 should be written down, which in fact is only the number of ones in the written number.

TASK

Number 35 has 2 tens and ? ones.

Which number should replace the question mark for the statement to be correct?

(Circle the correct answer)

- A. 5 ones
- B. 15 ones
- C. 25 ones
- D. 35 ones

It leads to the assumption that:

- In most cases, concerning the representation or description of numbers as a sum, only one method of representation is required and expected from the students, i.e. only the tens and ones that remain; and
- During the introduction of the concept number, the manipulatives for creation, representation and breaking down of numbers are not sufficiently used.

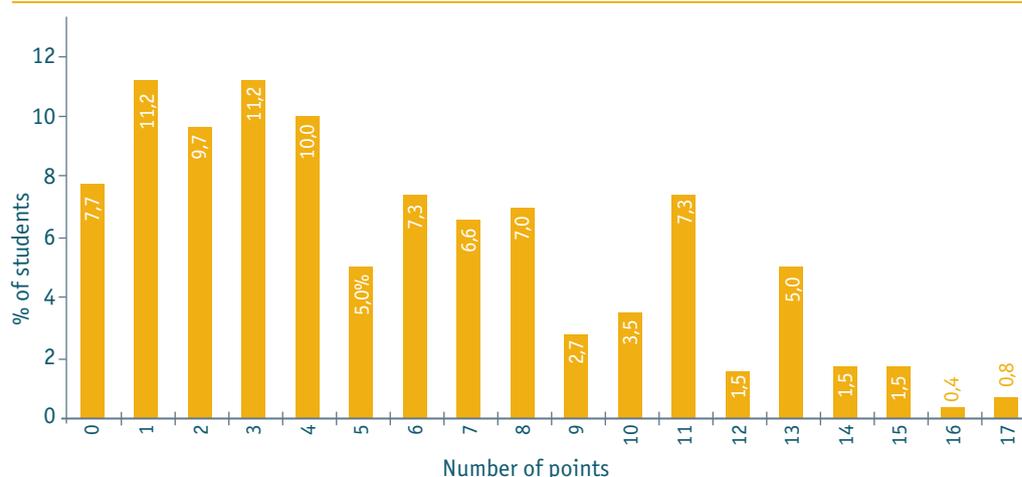
CONCLUSION

- ▶ The results on the task in numbers are lower than the expected results prescribed in the curriculum for the third grade.
- ▶ The average task score in the domain of Numbers, among the Roma students is by 6% lower than the average score of the other ethnicities. The difference is statistically significant.

STUDENTS' ACHIEVEMENTS ON THE TASKS IN THE DOMAIN OF: OPERATIONS AND PROPERTIES OF THE OPERATIONS

The students' achievements in the domain of Operations and properties of the operations are somewhat greater compared to the students' achievements in the other two domains (Numbers and Problems).

GRAPH 27. Results of all students in the domain Operations and properties of operations

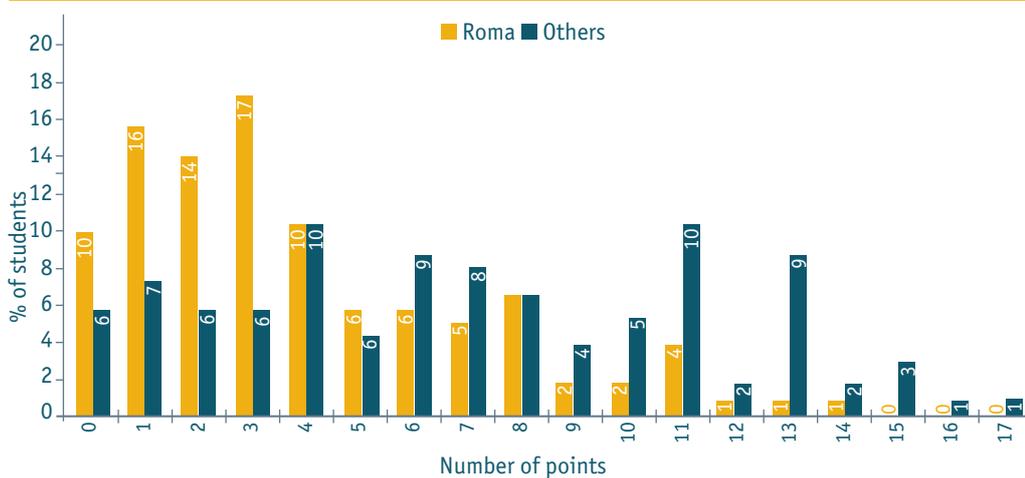


The average number of points on the tasks in this domain is 5.63 (maximum available number is 18), i.e. the average score percentile is 31%. The maximum result of 18 points was not achieved by any of the students. According to the

tasks results, two groups can be identified: one, a larger group (75% of the students), which had lower results on the test (they gained less than 8 points) and the other, a smaller group, with the students who gained between 9 and 17 points.

Graph 28 shows the comparative data on the achievements of the Roma students and the students of other ethnicities. According to the data, the Roma students have significantly⁴⁸ lower achievements in the tasks in the domain of Operations and properties of operations compared to the students of the other ethnicities.

GRAPH 28. Results of the Roma students and the students of the other ethnicities in the domain of: Operations and properties of operations

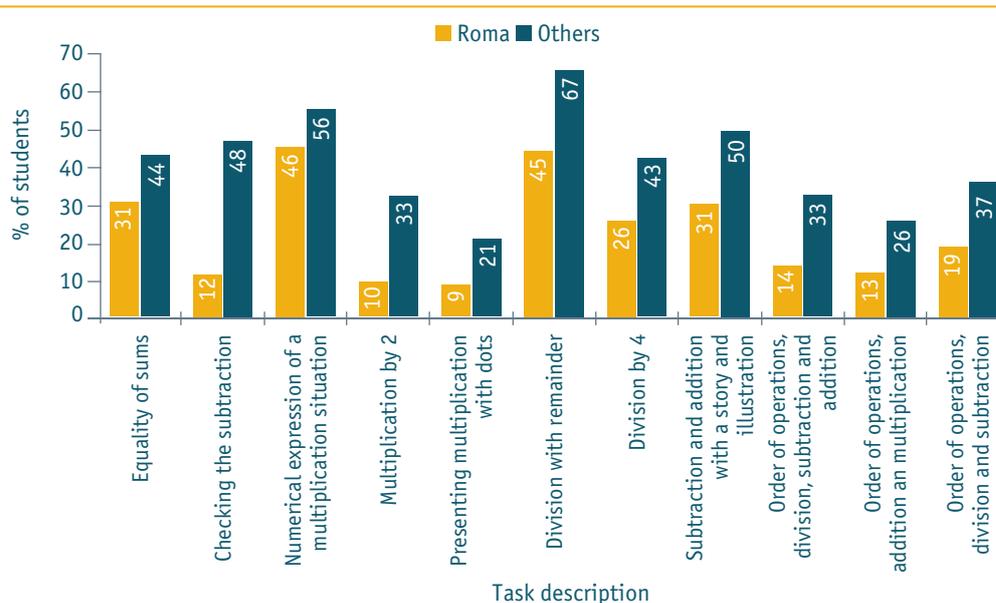


- The average task score among the Roma students is 22% (the average number of points is 3.96), which is significantly lower than the score of the other ethnicities that have the average score of 39% (the average number of points is 7.09).
- Half of the Roma students gained up to 3 points, while for the students of the other ethnicities, the distribution is bimodal: one, larger group of students, has up to 8 points and another, smaller, has above 9 points.
- The highest result among the Roma students is 14 points (achieved by 1 student), and among the other students, the highest result is 17 points, which was achieved by 2 students.
- The majority of Roma students have 3 points, and the majority of students of the other ethnicities have a result of 4 points, 11 and 13 points.

⁴⁸ There is a statistically significant difference at the level of 0.01.

The graph below shows the percentages of correct answers of the Roma students and the students of other ethnicities, for each individual task in the domain of Operations and properties of operations. The Roma students have achieved significantly lower results on all tasks in the domain of Operations and properties of operations.

GRAPH 29. Achievements of the Roma students and the students of the other ethnicities, by tasks



The task with lowest result was the one which required the students to present a given multiplication with dots. According to the grading, a correct or partially correct answer was accepted for this task. The table below provides the possible solutions and the percentage of students who gave the correct, partially correct or incorrect answer.

TASK

Present the multiplication $4 \cdot 3$ on the drawing below

	SOLUTION ON THE TASK	ROMA	OTHERS
Correct	On the drawing, the dots are encircled or somehow denoted in 4 rows with 3 dots OR in 4 columns with 3 dots.	7 %	14 %
Partially correct	- Aside are drawn and adequately grouped, encircled or not encircled 12 dots. - On the drawing, 12 dots are encircled or denoted, but without visible grouping where 4 x 3 could be noticed.	2 %	15 %
Incorrect	- Aside are drawn groups with 12 dots in total, but 4x3 is not noticeable (for ex. 6 groups with 2, 2 groups with 6). - Any answer which is incorrect.	91 %	71 %

The answers of the students point to the fact that:

- This way of visual presentation of the multiplication (with a dotted paper or table with sticks) is an approach which is very rarely used, or not at all, in teaching and in learning multiplication;
- The teachers mostly insist that their students learn the times table “by heart”, without expecting and checking the understanding of multiplication.

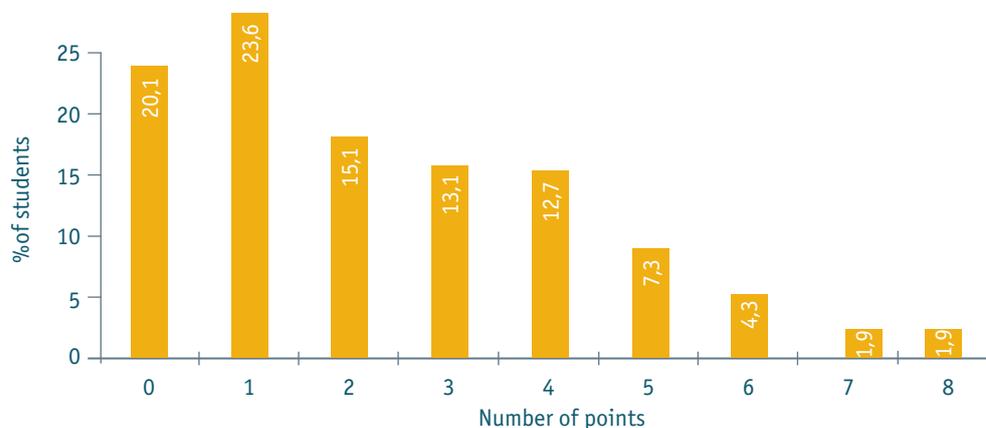
CONCLUSION

- ▶ The students’ results on the test tasks, which measured the knowledge and abilities in the domain of Operations and properties of operations, are lower than the expected and prescribed in the curriculum for the third grade.
- ▶ The difference among the Roma students and the other students who took the test is significant. The Roma students have by 17% lower average score on the tasks in the domain of Operations and properties of operations, compared to the other students.

STUDENTS’ ACHIEVEMENTS IN THE DOMAIN OF: TEXTUAL TASKS AND PROBLEM SOLVING

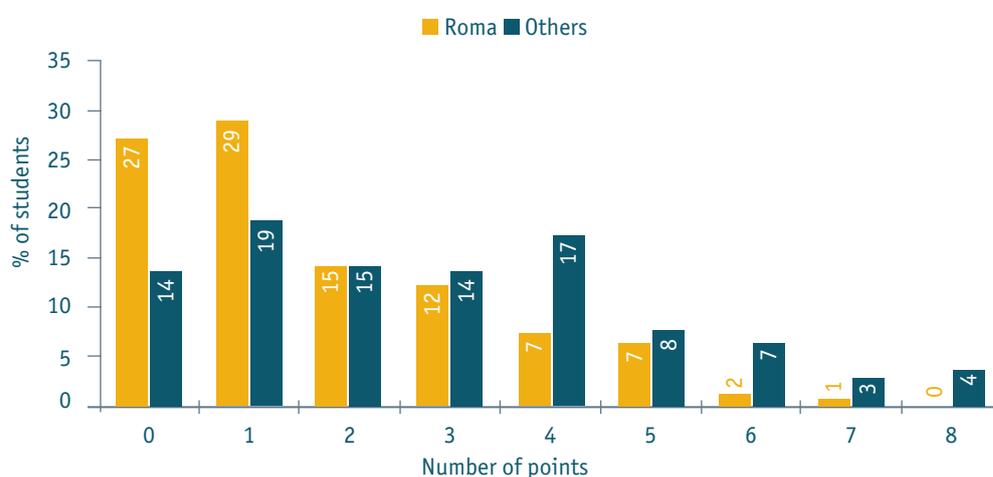
The students’ achievements in the domain of word problems and problem solving are lowest, in relation to the achievements in the other two domains (numbers and operations and properties of operations). The average score percentile is 26%, i.e. the average number of points gained by a student is 2.4 (the maximum available points are 9). A quarter of the students have achieved only 1 point, and the majority (20%) did not solve any of the problems.

GRAPH 30. Results of all students on the tasks in the domain of Textual tasks and problem solving



Graph 31 shows the comparative data on the achievements of the Roma students and the students of the other ethnicities. According to the test results, the Roma students have significantly⁴⁹ lower achievements in solving the textual tasks and problems compared to the students from the other ethnicities.

GRAPH 31. Results of the Roma students and the students of the other ethnicities

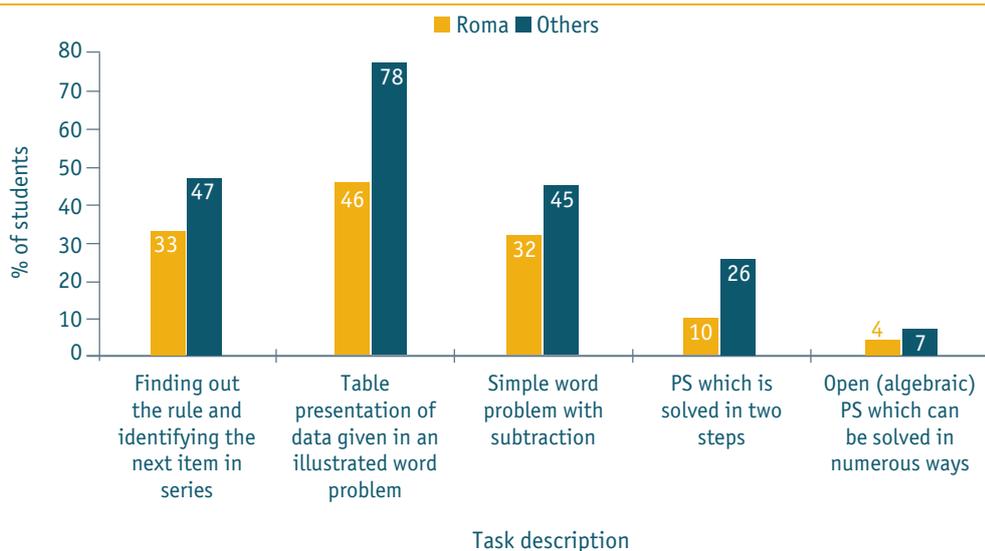


- The average task score among the Roma students is 19% (the average number of points is 1.74), and among the other ethnicities, the average score is 32% (the average number of points is 2.88) .
- The highest result among the Roma students is 7 points (achieved by 1 student), and among the other students, the highest result is 8 points, and it was achieved by 5 students.
- Among both groups, the majority of students have the result of only 1 point.

⁴⁹ There is a statistically significant difference at the level of 0.01.

The graph below shows the percentages of correct answers of the Roma students and of the students of the other ethnicities, for each individual task.

GRAPH 32. *Achievements of Roma students and of the students of other ethnicities, by tasks*



It can be noticed that the Roma students were less successful in every task. The greatest difference (32 percentage points) is in the task that contained a text illustrated with images and the data from the text should have been presented in a table.

CONCLUSION

- ▶ The results of the students in word problems and solving of problem situations are lower than the expected results, proscribed in the curriculum for the third grade.
- ▶ The Roma students achieved significantly lower results (by 13 percentage points) compared to the other students who took the test as well.

STUDENTS' ACHIEVEMENTS ACCORDING TO THE METHOD OF SETTING THE TASK

The achievements in mathematics, particularly on an early school age, could be influenced by the ability to read and understand the text of the task. Even though an effort was made not to have much text in the tasks, still there are tasks which required the student to read the text in order to understand the described situation, gather information and data which are necessary for the task, determine the operation or operations which will be used, afterwards make a numerical expression or find the solution to the task in a different way.

In order to check the influence of reading comprehension on the task results, an analysis of the achievements was conducted on two sub-tests, according to the manner of setting the task. The tasks, which were used for the analysis of the students' achievements by mathematical domains (abovementioned), are divided into two groups:

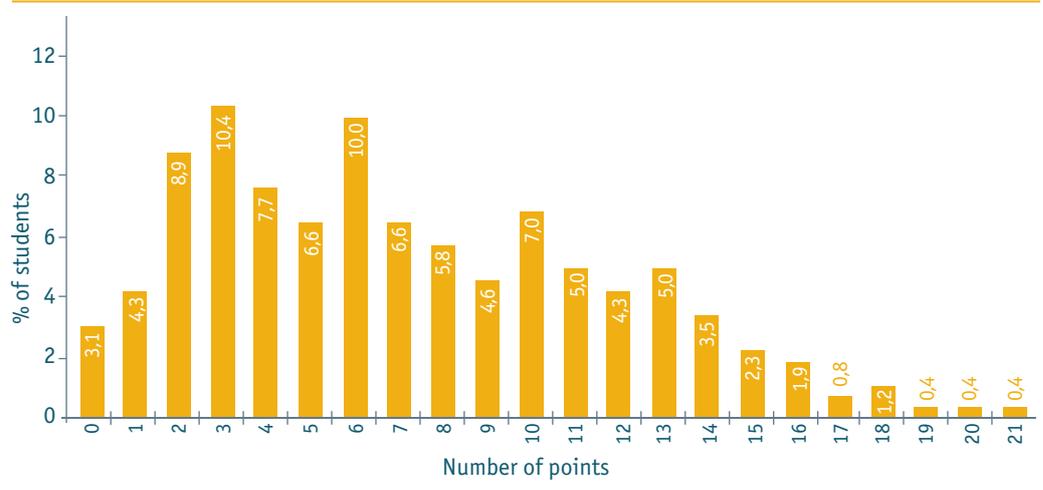
- tasks delivered only with numbers, as a numerical expression or graphically and with a short question;
- tasks with a text describing the situation which the student should understand.

The analysis showed that there is a significant difference in the results when the achievements are compared according to the manner of task delivery. The results of all students and the results of the sub-samples (Roma and others) for both types of tasks are presented in the graphs below, and it may be concluded that the students have significantly lower achievements in the tasks given with a text.

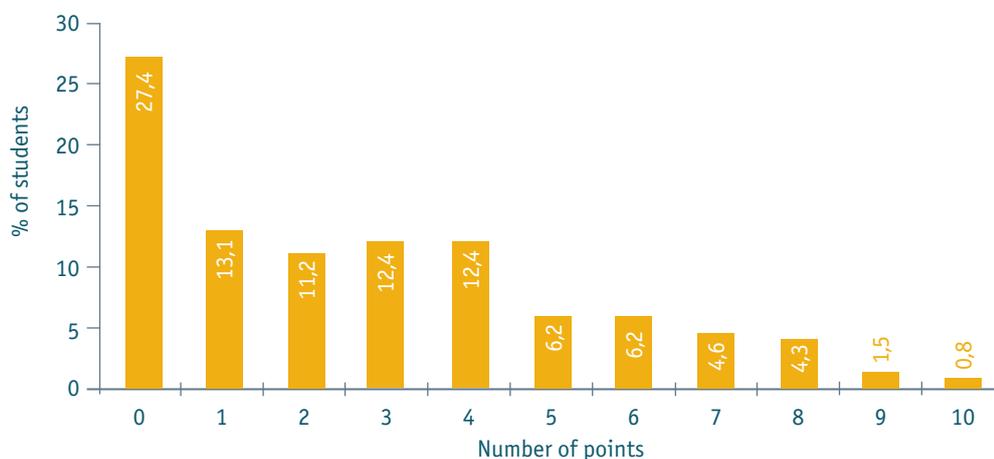
According to this division, the test contained 16 tasks given only with numbers, numerical expression or represented graphically and 5 tasks with a longer text.

The percentage of the tested students, according to the average number of points gained on the two types of tasks, is presented on the graphs 33 and 34, given below.

GRAPH 33. Results of all students on the tasks given only with numbers, numerical expression or presented graphically



GRAPH 34. Results of all students on the tasks given with a text

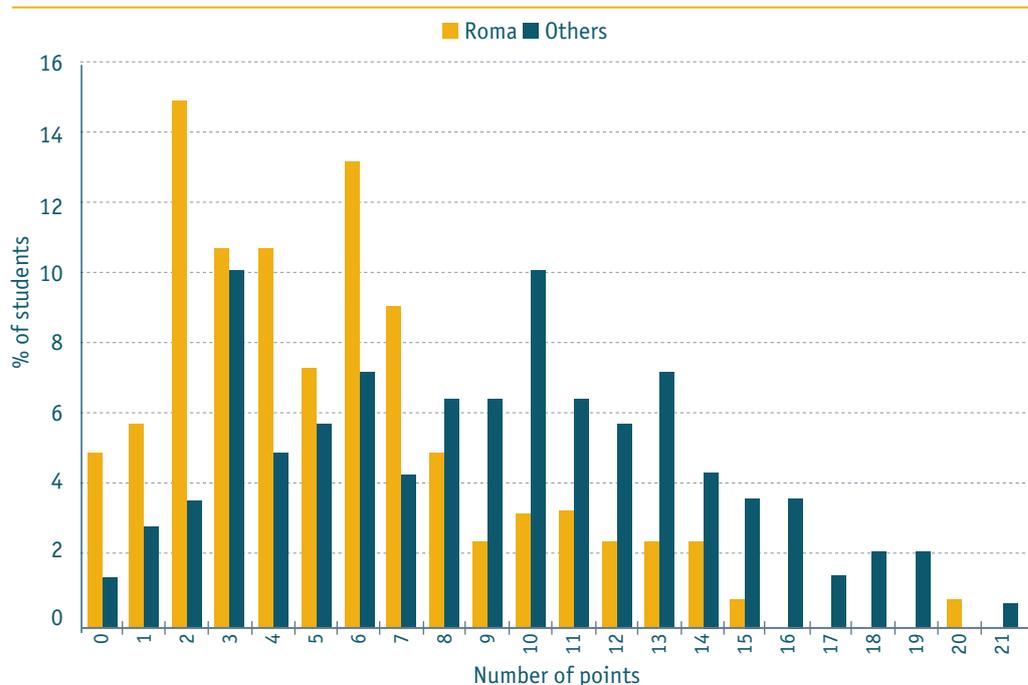


- The average score of the tasks given only with numbers, numerical statements or presented graphically is 31% (the average number of points is 7.24).
- The average score of the tasks given with text is 25% (the average number of points is 2.78).
- Out of the total number of tested students, 8 students did not provide the correct answer for any of the tasks given only with numbers, numerical statements or presented graphically, compared to the 71 students who did not provide the correct answer for any of the textual tasks..

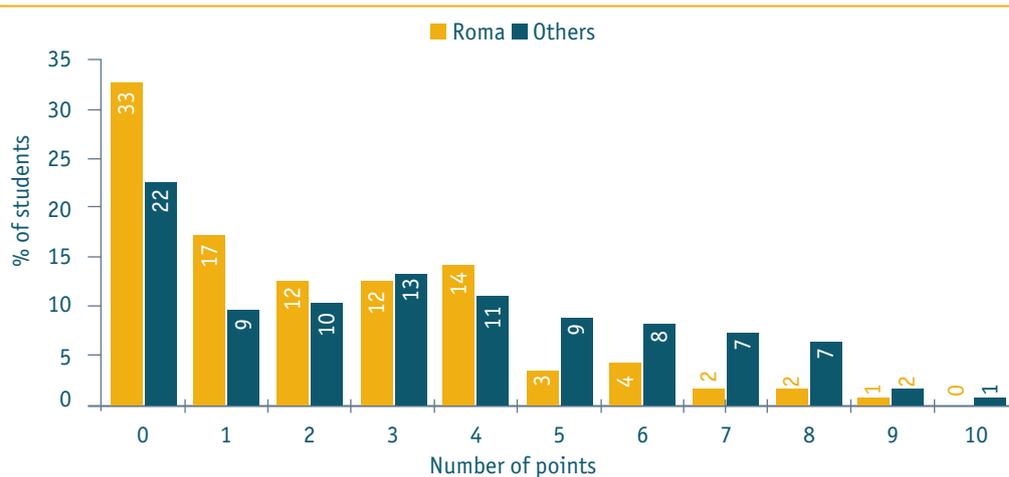
The percentage of Roma students and of the other students, according to the average number of points gained on the two types of tasks, are presented in the graphs 35 and 36, shown below.

The correlation of the results on the tasks given only with numbers and the tasks given with text is much lower among the Roma students – it is 0.5 – compared to the same correlation among the other students, which is 0.7. It could also be an indicator that the Roma students found the textual tasks to be more difficult.

GRAPH 35. Results of the Roma students and the students of other ethnicities on the tasks given only with numbers, numerical expression or presented graphically



GRAPH 36. Results of the Roma students and the students of other ethnicities on the tasks given with text



- The average score of the tasks given only with numbers, numerical expression or presented graphically, among the Roma students, is 25% (the average number of points is 7.2), and among the other ethnicities, the average score is 38% (the average number of points is 8.8).
- The average score of the tasks given with text, among the Roma students, is 19% (the average number of points is 2.1), and among the other ethnicities, the average score is 31% (the average number of points is 3.4).

- 33% of the Roma students and 22% of the students of other ethnicities did not provide the correct answer to any of the tasks given with text.

CONCLUSION

- ▶ All students have lower results on the tasks that contain more text, compared to the tasks given only with numbers or graphically.
- ▶ The Roma students have significantly lower results, on both types of tasks, compared to the other students, particularly on the tasks given with text.

3.1.2.3. Relationship of the results in mathematics with specific socio-cultural variables

METHOD OF MEASURING

The data on the possible influences related to the family and to the prior knowledge were obtained with a questionnaire. The questionnaire contained 8 questions on the education and employment of the parents, the support of the family with learning mathematics, prior knowledge before commencing first grade and the language which is spoken at home.

SOCIO-ECONOMIC STATUS OF THE PARENTS

Numerous studies (Lameva and Ramadani, 2013; Frenzel et al., 2010⁵⁰) have shown the existence of a positive correlation between the achievements and the socio-economic status of the students' families. Therefore, the following data were collected: on the education and employment of the parents, the number of books in the home, whether they have their own room, desk and internet.

As regards the data on the parents' education, it can be noticed that the students whose parents have secondary or higher education achieve greater results on the mathematics test compared to the students whose parents have a lower level of education.

50 Lameva, B. and Ramadani, R. (2013). *TIMSS 2011 – Report on the students' achievements in the Republic of Macedonia*. Skopje: State Examination Centre Frenzel, A.C., Goetz, T., Pekrun, R. & Watt, H.M.G. (2010). Development of Mathematics Interest in Adolescence: Influences of Gender, Family and School Context. *Journal of Research on Adolescence*, 20(2), 507–537

TABLE 27. Results on the students' test according to the education of the parents

EDUCATION OF THE MOTHER	AVERAGE SCORE PERCENTAGE OF THE TEST	EDUCATION OF THE FATHER	AVERAGE SCORE PERCENTAGE OF THE TEST
Completed 4th grade	19,3	Completed 4th grade	21,4
Completed 7th grade	29,1	Completed 7th grade	20,6
Completed secondary education	42,0	Completed secondary education	43,0
Higher education	32,9	Higher education	34,0

- The average test score of the students whose mother has completed only the 4th grade (42 students in total) is 19%, compared to the test score of 42% of the students whose mother has completed secondary education (63 students in total).
- The average test score of the students whose father has completed only the 4th grade (34 students in total) is 21%, compared to the test score of 43% of the students whose father has completed secondary education (65 students in total).
- The data on the employment of the parents do not show the same tendency as the data on the parents' education, i.e. there is no significant difference in the achievements of students whose parents are employed compared to the students whose parents are unemployed:
- The average test score of the students whose mother is employed (125 students in total) is 33.5%, compared to the test score of 32.6% of students whose mother is unemployed (73 students in total).
- The average test score of the students whose father is employed (174 students in total) is 33.1%, compared to the test score of 30.1% of students whose father is unemployed (27 students in total).

SUPPORT FROM THE FAMILY

With reference to the correlation between the support from the family and the achievements in mathematics, the students were asked to answer questions on: how often adults in the family help them with their homework and how often they discuss with their family members about what they learned at school on the classes in mathematics. The results show the following:

- There is no difference in the average test score as to whether the students receive help with their homework from the adults in the family. The average test score among the students who answered that the adults often help them with their homework is 38.2%, and among the students who do not get help from the adults, the test score is 36.9%.
- The students who often share with their family members what they have learned on the mathematics classes, have greater achievements on the mathematics test compared to the students who do not discuss. The average test score of the students who share what they have learned is 40.6%, and among the students who do not share what they have learned, the test score is 24.5%.

KNOWLEDGE OF THE LANGUAGE OF INSTRUCTION

Throughout their education, some Roma students are faced with the challenge to follow the classes on the language they do not know very well.

In the course of this study, the students were asked about the language they speak at home, in order to make a comparison whether the language which is spoken at home corresponds to the language of instruction (Macedonian, i.e. Albanian language of instruction).

As expected, the data confirm the assumption that the students who speak the Roma language at home (language which is different than the language of instruction) have lower achievements on the mathematics test. Some 129 Roma students were included in the sample. The average score of the mathematics test of every Roma student was 23,3%, and the result of the 37 Roma students who speak the Roma language at home is 20,4% (the difference is 3 percentage points). However, the result of the Roma students who often speak the Roma language at home shows significant difference compared to the average test score of the students from Macedonian ethnicity who speak the language of instruction at home – Macedonian language (37.9%), and students from Albanian ethnicity who speak the language of instruction at – Albanian language (33.4%).

A confirmation to the abovementioned conclusion are the data obtained from the Roma students as an answer to the question: If you speak a different language at home, which is not Macedonian (Albanian), how well did you know the Macedonian/Albanian language before you started the first grade? Those Roma students who have difficulties with understanding and speaking Macedonian / Albanian language, have a very low average score on the test in mathematics –

24.2%. There is a significant difference between this result and the average test score among the Roma students who spoke and who had good understanding of the language of instruction – 33.4%.

PRIOR KNOWLEDGE IN MATHEMATICS – BEFORE COMMENCING THE FIRST GRADE

One question was used to collect information from the students about their prior knowledge in mathematics, before commencing the first grade. According to the answers of the students, it can be concluded that their basic prior mathematical knowledge, before commencing the first grade, as: counting, reading of numbers and addition and subtraction (up to 10 or more than 10) does not have an influence on the students’ achievements at the end of the first cycle, except for the basic number recognition.

TABLE 28. *Results of the students’ test according to their prior knowledge*

TYPE OF PRIOR KNOWLEDGE	NUMBER OF STUDENTS	AVERAGE SCORE PERCENTAGE ON THE TEST
I can recognize numbers	17	26,1
I know how to count to 10	80	35,4
I know how to count higher than 10	44	32,8
I know how to add and subtract to 10	10	34,1
I know how to add and subtract higher than 10	27	31,1
Did not offer an answer	72	19,8

It could lead to the assumption that the teachers do not take the prior knowledge of the students into consideration and do not place them in teaching situations and activities which represent a challenge for them and require them to use their prior knowledge. The result of this type of approach is that the differences in the knowledge, which existed at the start of the first grade will be lost until the end of the third grade – and the overall achievements are low.

It can be assumed that the 72 students who did not provide an answer to this question did not possess prior mathematical knowledge before commencing the first grade, and their test results are almost 8 percentage points lower than the results of the students who stated they know how to count to 10.

CONCLUSION

- ▶ The students whose parents have more than primary education have greater achievements, and the parents of the Roma students mostly have primary education or lower level of education.
 - ▶ The students' answers about the level of help from the parents with learning and with homework are not related to the achievements in mathematics; however the greater interest of the parents in learning mathematics at school is related to the students' achievements.
 - ▶ The prior knowledge in mathematics, before commencing the first grade, is not related to the achievements in mathematics in the third grade.
 - ▶ The knowledge of the language of instruction (Macedonian or Albanian) is notably related to the achievements in mathematics.
-

3.2. STUDENTS' ACHIEVEMENTS AT THE END OF THE SECOND CYCLE OF PRIMARY EDUCATION

3.2.1. STUDENTS' ACHIEVEMENTS ON THE TEST IN MOTHER TONGUE

3.2.1.1. Students' achievements on the test in reading comprehension and writing

METHOD OF MEASURING

The students' achievements were measured using tasks in reading and understanding of different types of texts and tasks in writing different types of texts upon given directions (number of words; offered description text; initiated text; offered words adequate to the topic; use of orthography). The tasks were divided into two tests.

The test for measuring the ability for reading comprehension consists of:

- two short texts (stories) which should provide the answers to 6 requirements;
- informative text which comprehension is verified with 6 requirements;
- information given in a table which are related to 7 requirements, and
- a narrative text which was related to 11 requirements.

The test for measuring the ability to write consists of the following tasks:

- to write (finish up) a letter;
- to write a text of practical purpose (extensive notification of accomplished activities) with a set number of words;
- to write a text – a detailed description of a person with given writing directions.

The results on the tasks about the ability to write was assessed with a list of criteria, which was established upon a reviewed sample of solved tests.

For easier monitoring of the text, the Report will only use the phrase "task", which will refer to each individual requirement in the test, i.e. on 30 requirements for reading and on the requirements for writing.

The obtained conclusions refer to the knowledge and abilities which are explicitly measured with the tasks in the test, and the test in reading and writing was the same both in Macedonian and in Albanian language.

The students' achievements are shown by the score percentile of the overall test and in the individual domains. A special emphasis was placed on the comparisons between the achievements of the students of Roma ethnicity and the students of the other ethnicities. The achievements of Roma students and students from others ethnicities. The results are shown in tables and graphs, which are accompanied by verbal commentaries.

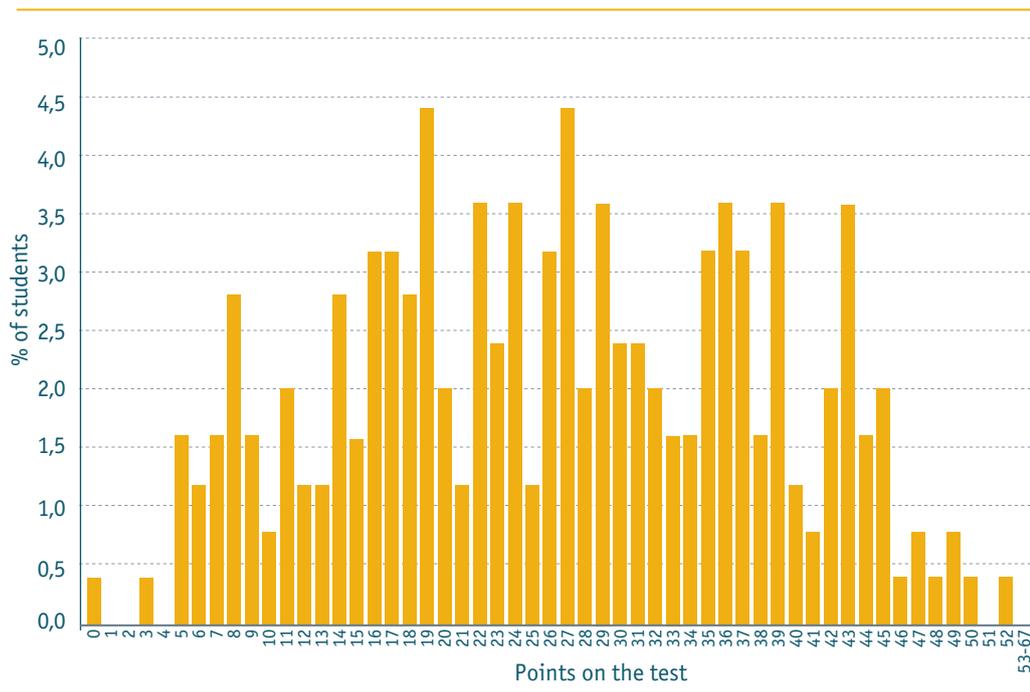
The results obtained on the overall test in reading comprehension and writing for all students, are shown in table 29 and graph 37. The average test score is 39.3%, i.e. the average points gained are 26, out of the maximum 67 points. Those achievements are below the expected level, as well as below the level prescribed with the curricula.

TABLE 29. *Score of the test in reading and writing*

NUMBER OF STUDENTS	NUMBER OF TASKS	MAXIMUM NUMBER OF POINTS	AVERAGE POINTS	AVERAGE TEST SCORE
249	47	67	26	39,3 %

The distribution of the students according to the test results is shifted to the left, to the lower results. Half of the students have less than 27 points. Only one student has the largest number of points – 52 points of the available 67 points. Out of the total number of 249 tested students, only two of them have less than 5 points.

GRAPH 37. *Results of all students on the test in reading comprehension and writing*



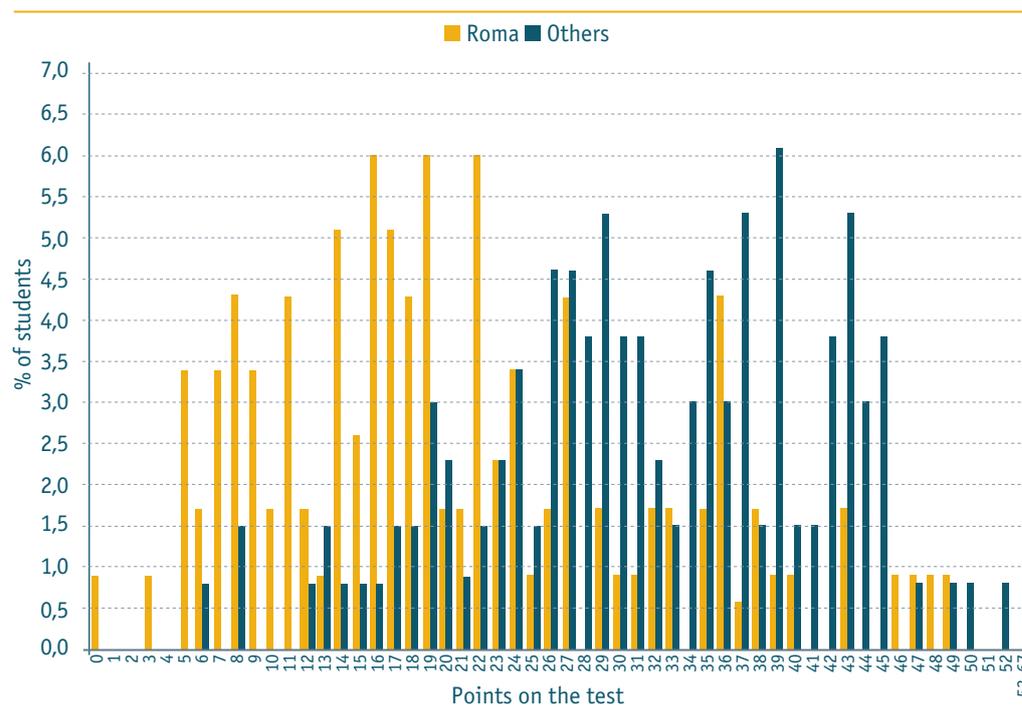
The achievements of the Roma students are significantly lower⁵¹ compared to the achievements of the other students. The average test score of the Roma students is 30.6 %, and among the other students it is by 16 percentage points higher – i.e. the score is 47%.

TABLE 30. Score of the test in reading and writing of the students of different ethnicities

ETHNICITY	NUMBER OF STUDENTS	MAXIMUM NUMBER OF POINTS	AVERAGE POINTS	AVERAGE TEST SCORE
Roma	117	67	20,5	30,6 %
Others	132	67	31,5	47,0 %

The achievements of the Roma students and the students of other ethnicities are presented graphically in the graph below.

GRAPH 38. Results of the Roma students on the test in reading and writing



- The majority of Roma students, according to the points gained, are grouped in the section of the scale with smaller number of points, while the students of other ethnicities are in the section of the scale with larger number of points.
- Only 15% of the Roma students gained more than half of the available points on the test – above 33 points, while this number among the other students is thrice as large - 45%.

⁵¹ There is a statistically significant difference at the level of 0.01.

- Among the Roma students, only one student gained the most points on the test – 49 of the available 67 points, while among the other students, the highest result is - 52 points.
- The range of the points gained among the Roma students is from 0 to 49, and among the other students it is from 6 to 52 points.

CONCLUSION

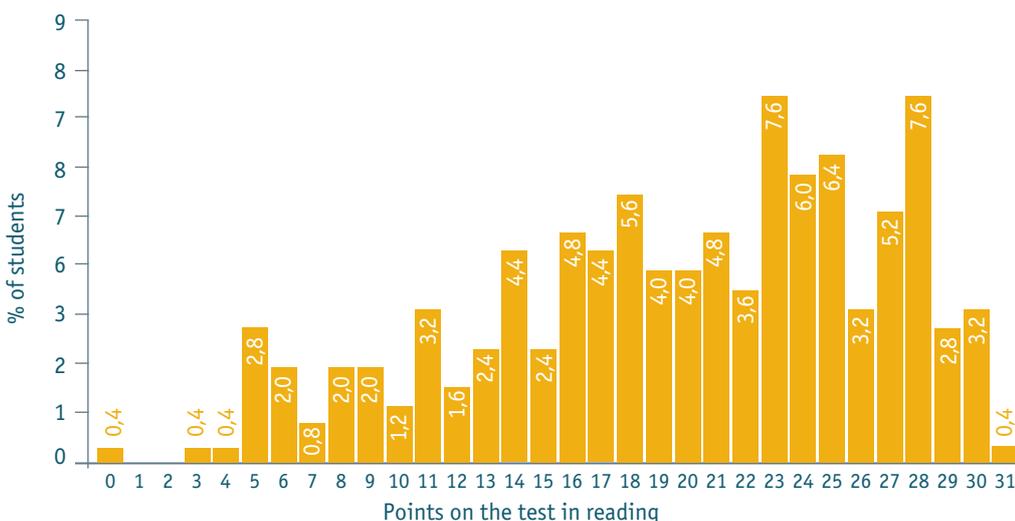
- ▶ The results on the overall test in literacy (reading and writing) are somewhat below the level of expected results prescribed in the curriculum for the sixth grade.
- ▶ The Roma students have significantly lower achievements. The average task score among the Roma students is by 16 percentage points lower compared to the average score of the other ethnicities.

3.2.1.1. Students' achievements on the test in Reading comprehension

The average score of the test in reading comprehension of all students is 59.5%, and the average number of points gained – 19.6. These results are above the theoretical arithmetic mean of the test, which is statistically set on 16.5 points.

The distribution of the students, according to the number of points gained, is given on the graph below. As it can be seen, the distribution is shifted to the right, i.e. towards the highest number of points gained.

GRAPH 39. Results of all students on the test in reading comprehension



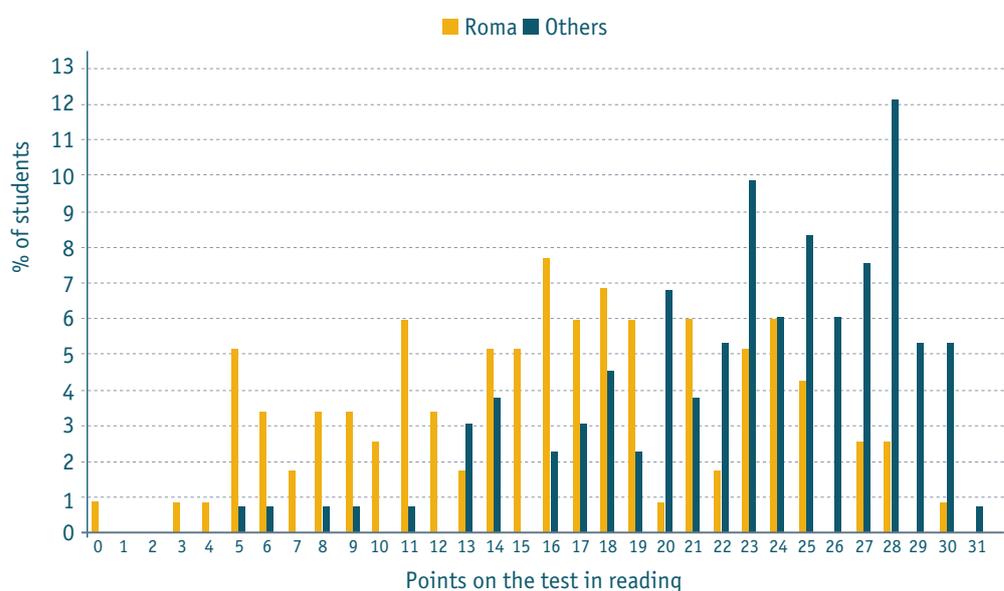
- More than two-thirds of the students – 69% have gained half or more than half of the available number of points.
- The maximum achieved test result is 31 points, of the available 33 points, and it was achieved by one student, while 8 students gained 30 points.
- Only 1% of the students have gained less than 5 points.

Table 31 and graph 40 below, present the comparisons between the achievements of the Roma students and the students of other ethnicities.

TABLE 31. *Score of the test in reading*

ETHNICITY	NUMBER OF STUDENTS	MAXIMUM NUMBER OF POINTS	AVERAGE POINTS	AVERAGE TEST SCORE
Roma	117	33	16,0	48,6 %
Others	132	33	22,9	69,3 %
All	249	33	19,6	59,5 %

GRAPH 40. *Results of the Roma students and the students of other ethnicities on the test in reading comprehension*



The Roma students, on the test in reading comprehension, have achieved the maximum score percentage of 48.6%, which means that they gained almost half of the available number of points, in average. However, this score percentage is significantly below the average test score of the other students which is in the amount of 69.3%.

- The distribution according to the number of points gained by the Roma students is almost usual. The majority of the students (7.7%) gained 16 points. Only one student gained 30 points, of the available 33, while one student did not provide any correct answer to any of the questions.
- The students of the other ethnicities, according to the number of points gained on the test in reading, are mostly grouped in the top part of the scale – 85% of the students have more than 16 points, and as much as 50% have more than 23 points. The test was easy for this group of students.

SPECIFIC ANSWERS TO THE TASKS IN THE TEST IN READING

The test in reading comprehension consisted of different types of texts and different types of tasks related to them, since the type of text required a different analytical approach. According to the task formulation, the test consisted of 27 multiple-choice tasks and 13 open-ended tasks.

The analysis of the results shows that all students were not equally successful in answering the multiple-choice tasks and the tasks where they wrote down the answer.

The students achieved a significantly high score percentage on the multiple-choice tasks, regardless of the type of text - it was in the amount between 48% and 92%, but generally the score is above 71%.

On the tasks where the students had to formulate and write down the answer or make a conclusion using their own words, the percentage of the average score is lower and between 5% and 76%.

Tables 31 and 32, given below, present the score of the two types of tasks in the test (the tasks in the tables have the same number as in the test).

TABLE 31. *Score of the multiple-choice tasks in the test in reading*

TASK NO.	TASK DESCRIPTION	TASK SCORE I N % OF THE STUDENTS		
		All students	Roma	Others
1.1.	Identifying the literary type	86 %	79 %	91 %
1.2.	Identifying the main character in the literary text	77 %	72 %	82 %
1.3.	Identifying the scene	92 %	83 %	99 %
1.5.	Анализа на активности на лик	50 %	38 %	60 %
1.6.	Analysis of the activities of a character	71 %	53 %	86 %
2.2.	Drawing implicit information in a text	81 %	77 %	85 %
2.4.	Linking information in a text	73 %	65 %	80 %
2.5.	Linking information in a text	73 %	66 %	80 %
3.1.	Drawing explicit information in a text - table	79 %	65 %	91 %
3.3.	Reading data from a text - table	48 %	38 %	58 %
3.5.	Reading data from a text - table	71 %	62 %	78 %
4.1.	Identifying the main character in a literary text	48 %	41 %	55 %
4.2.	Identifying the stages of action in a literary text	79 %	70 %	86 %
4.5.	Drawing explicit information from a text	69 %	66 %	73 %
4.7.	Drawing explicit information from a text	82 %	68 %	93 %
4.8.	Identifying the activities of group of characters	69 %	58 %	80 %
4.9.	Explicit information on the acting of characters in a development of an action	81 %	73 %	88 %

TABLE 32. Score of the open-ended tasks in the test in reading

TASK NO.	TASK DESCRIPTION	TASK SCORE I N % OF THE STUDENTS		
		All students	Roma	Others
1.4.	Drawing implicit information from a text	54 %	49 %	58 %
2.1.	Drawing implicit information in an informative text	51 %	28 %	71 %
2.3.	Differentiating various information in an informative text	53 %	44 %	61 %
2.6.	Analysis of an informative text	57 %	49 %	64 %
3.2.	Drawing implicit information from a text - table	76 %	59 %	92 %
3.4.**	Linking different information in a text - table	39 %	24 %	52 %
3.6.	Linking information in a text - table	67 %	45 %	86 %
3.7.	Linking information in a text - table	56 %	43 %	67 %
4.3.**	Analysis of a character's actions	48 %	34 %	60 %
4.4.	Analysis of a text by reading a context	5 %	2 %	8 %
4.6.	Linking events to the characters' actions	53 %	36 %	69 %
4.10.**	Analysis of an action in a literary text	26 %	16 %	34 %
4.11.	Creating a title and linking it to a topic of a literary text	41 %	26 %	55 %

* on the tasks marked with "***" the maximum number of points was 2.

The students from all ethnicities are more successful in the multiple-choice tasks, compared to the open-ended tasks. The Roma students, compared to the other students, are less successful in all tasks and the difference in the average score is between 6 and 33 percentage points, depending on the task.

The tasks, according to the content meaning, are drafted in correlation with the objectives of the curriculum. The knowledge in the domain of literature is checked by reading the two stories and the short narrative text. The analysis of these literary texts shows the extent to which the students are able to differentiate the elements of a prose, to differentiate the setup of the characters and the narrator in the literary text. The results presented in the abovementioned tables show that the students are very successful (above 70% of correct answers) in identifying the type of text, in recognizing the basic elements of a prose, i.e. they are able to identify the topic, main characters, their activities and draw explicitly given information in the text. However, they are less successful (average score below 50%) in understanding the proper role of the characters in the literary texts, describe the action and use a title to represent the topic of the text.

Similar image is obtained when we observe the results on the students' ability to understand informative texts or text-tables. According to the achievements, the students are able to successfully draw explicit data from a text, but they are not very successful when they have to link those same informations in a new situation.

The reading comprehension of informative texts is of essential significance to learning, i.e. development of the ability of the student – reader to receive new information, to differentiate the already adopted facts from the new ones, in order to find the answers to the asked questions.

In the tasks related to an informative text, the students were least successful. They are rather successful (average score above 70%) in linking the information in the text when they have to choose the answer from the offered answers, but they were less successful (average score about 50%) in drawing implicit information and differentiating various information given in the text.

CONCLUSION

- ▶ The results on the reading test are on a satisfactory level compared to the expected results in the curriculum for the end of the second cycle of primary education.
- ▶ The ability for reading comprehension is relatively good among all students, which should provide the basis for their continuous successful learning and progress.
- ▶ The average task score among the Roma students is by 20 percentage points lower than the average score of the other ethnicities. The difference is statistically significant.
- ▶ The results of the Roma students on the test in reading comprehension, even though lower than the others, are quite good, in average they gained almost half of the available number of points.
- ▶ All students were more successful in the multiple-choice tasks compared to the tasks that required the students to formulate and write down the answer.
- ▶ The students, in the literary texts, are very successful (correct answers above 70%) in identifying the type of text, identify the topic, main characters, and their activities and draw the explicitly given information in the text. They are less successful (average score below 50%) in identifying the role of the characters in the action, in explaining the action in the text and determining an adequate title.
- ▶ The students are less successful in reading and understanding of informative texts. They are able to draw explicitly given information (the score of the multiple-choice tasks is above 70%), and less successful in drawing implicit information and linking those information to new situations.

3.2.1.2. Students' achievements on the writing test

The writing ability was checked with three tasks which required the students to write three different types of texts (a letter, a notification and a description of a person). According to the assessment criteria, the maximum number of points was 34. The results achieved by the students are shown in table 33 and graphs 41 and 42 below.

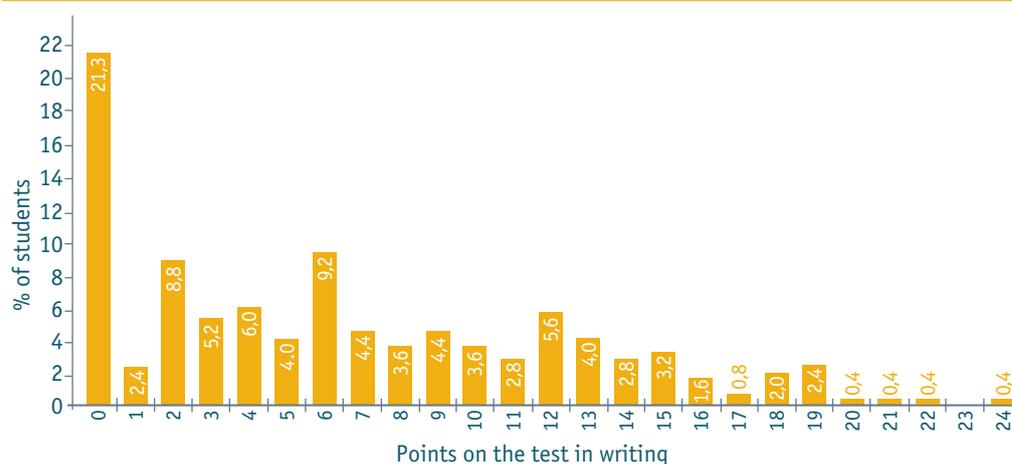
TABLE 33. Score on the writing test

ETHNICITY	NUMBER OF STUDENTS	MAXIMUM AVAILABLE NUMBER OF POINTS	AVERAGE POINTS	AVERAGE TEST SCORE
Roma	117	34	4,5	13,1 %
Others	132	34	8,6	25,3 %
All	249	34	6,6	19,6 %

According to the results, the average score on the writing test, of all students, is 19.6%, i.e. they have gained 6.6 points in average, of the total available points of 34. Those are low achievements compared to both the objectives of the curriculum and the expected level of success on the tasks in the test.

From the graph below, it can be seen that the majority of students, according to the number of points gained, are concentrated on the part of the scale with low number of points.

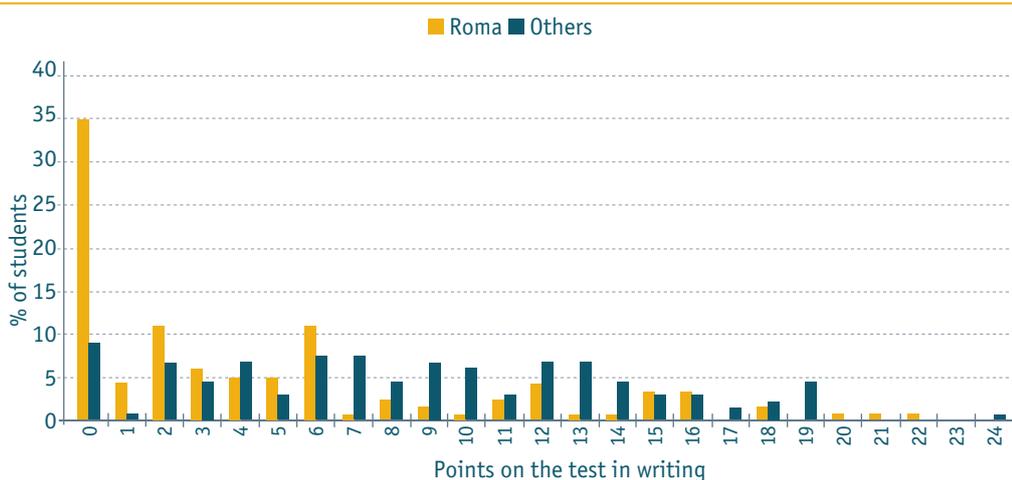
GRAPH 41. Results of all students on the writing test



- Only 7% of the students gained more than half of the available number of points on the test in writing. The highest result – 24 points, was achieved by only 1 student.
- More than fifth of the students – 21.3%, did not gain any point on the test in writing.
- There are a small number of students (0% to 6%), who gained 2 points on some criteria, meaning that they have fulfilled the writing criteria on a higher level.

A comparison between the results of the Roma students and the students of the other ethnicities is presented below.

GRAPH 42. *Score on the test in writing of the students of different ethnicities*



The Roma students have achieved significantly poorer results on the tasks in writing compared to the students of other ethnicities. In average, they gained less than half of the points.

- The number of Roma students who did not gain any point on the test in writing is quite large - 35% and significantly larger compared to the students of other ethnicities where only 9% of students did not gain a point.
- Only 5% of the Roma students gained more than half of the available number of points, compared with the twice as many points (10%) of the students of other ethnicities.
- A very low number of students (0% to 4%) gained 2 points on some writing criteria, i.e. they achieved the higher level of quality described in the criterion.

CHARACTERISTIC ANSWERS ON THE TASKS IN THE WRITING TEST

The achieved average results on the writing test show the students have the ability to write different types of written expression and apply the standard linguistic norms, which are used in the test.

The test consisted of the requirements for using different types of written expression. In particular, the test checked the students' ability to write a

letter, to write a text of an extensive notification and to describe in detail a person. These tasks were used to check the objectives of the curriculum domain: Expression and creation, i.e. whether the students are able to write texts of practical purpose and whether they are able to formulate a literary text which will provide a detailed description of a person.

In the first task, the students were required to finish a started letter, which checked the extent to which the students are able to write a letter as a written form of expression and respect the requirements related to composition, clarity, sentence construction, respect the orthographic principles and use the adequate punctuation, as well as to possess the necessary level of originality. The percentage of average points gained by criteria is from 6% to 31%.

In the second task, the students were required to write a text of practical purpose (extension of the description of accomplished activities) using previously given number of words. The average percentage of points gained by criteria is from 7% to 31%.

In the third task, the students were required to formulate a written text which will represent a detailed description of a person with given directions for the description, with an offered list of words and using a specific number of words. The average percentage of achievements, for the criteria for this type of written text, is from 6% to 34%.

TABLE 34. Average percentage of points gained according to the criteria for the tasks in writing

CRITERION	AVERAGE SCORE								
	TASK 1 - LETTER			TASK 2 - NOTIFICATION			TASK 3 - DESCRIPTION		
	all %	Roma %	others %	all %	Roma %	others %	all %	Roma %	others %
Composition	12	6	17	7	4	10	10	4	14
Clarity of the composition	31	22	40	31	23	38	34	26	41
Punctuation	22	13	29	21	13	28	23	14	31
Orthography	25	21	30	26	19	31	26	22	30
Sentence construction	20	11	28	13	7	19	20	11	28
Originality	6	4	7				6	4	9

The results presented in the table above, show the following:

- The students have achieved the highest result in the criterion clarity of the composition, i.e. the extent to which they understand the topic they should write about. However, the average score of this criterion is about 30%, which means that the majority of students are unable to write a clear composition.
- In the criteria which are used to check the application of the linguistic norms, the students are more successful in the proper use of orthography, even though the average score is also low – about 25%. Poorer knowledge is shown in the use of punctuation and proper sentence construction.
- The students have very low achievements in formulating a written text composition (in average, they gained about 10% of the available number of points) and in introducing original elements in the written type of expression (they gained only 6% of the available number of points).

CONCLUSION

- ▶ The results on the test in writing show that the students have very low abilities to express themselves using different written forms, meaning they are not sufficiently prepared to independently write texts with given directions.
- ▶ The average test score among the Roma students is almost twice as low as the average score of the other ethnicities. The difference is statistically significant.
- ▶ All students are somewhat successful as regards the clarity of the composition in terms of the adequate writing topic and in using orthography and punctuation, but only few are successful in the adequate text composition and even fewer in attaining originality, regardless of the type of text.

There are no differences among the Roma students and the students of other ethnicities, with regards to criteria for successful which were easier or more difficult to fulfil. All students have low achievements in many criteria. However, on every criterion, the students of other ethnicities gained twice as many points as the Roma students. The test assessors concluded that some Roma students are familiar with orthography, but they are faced with a problem to link the words into a sentence and also find it difficult to use words and sentences to create a text.

3.2.1.3. Relationship of the results on the reading and writing tests with specific socio-cultural variables

The students' achievements, in addition to the efforts of the teachers and the efforts of the students themselves, are influenced by other factors related to the family environment. Therefore, for monitoring the Programme effects, it is also important to measure the impact of other relevant factors which cannot be influenced by the Programme, but which could be modified during its realization.

METHOD OF MEASURING

The data on the circumstances and habits in the family of the tested students, which refer to language literacy, were collected using a short questionnaire that was filled out by the students at the end of the testing. 9 questions were used to collect data on:

- Socio-economic characteristics of the family;
- Approximate number of books in the family;
- Activities within the home related to reading;
- Language spoken within the home;
- Grades in Macedonian language at the end of the 6th grade.

SOCIO-ECONOMIC STATUS OF THE PARENTS

The data on the achievements of the students with different level of education, which are presented in the table below, show the extent to which the achieved results in reading and writing are related to their parents' educations. The achievements of the students, whose parents have completed secondary or higher education, both the mother and the father, are significantly better in relation to the achievements of the students whose parents have completed only the 4th grade.

TABLE 34. Results on the students' test according to the education of the parents

EDUCATION OF THE PARENTS	COMPLETED 4 TH GRADE	COMPLETED 8 TH GRADE	SECONDARY	HIGHER
	Average score percentage of the test			
Mother	28,8	38,2	44,1	43,2
Father	24,9	35,9	44,1	40,1

As regards the connection between the students' achievements and the employment of their parents, the results show that there is no significant difference in the achievements of students whose mothers are employed compared to the students whose mothers are unemployed. The situation is different as regards the employment of the fathers, i.e. it is related to the achievements of their children. The students whose fathers are employed have by 4 percentage points higher score on the test in reading and writing⁵².

TABLE 35. Results on the students' test according to the employment of the parents

EMPLOYMENT	EMPLOYED		UNEMPLOYED	
	Number of students	Average score percentage of the test	Number of students	Average score percentage of the test
Mother	120	41,0	116	39,2
Father	183	41,0	51	36,4

EDUCATIONAL RESOURCES THAT THE CHILDREN HAVE WITHIN THEIR HOME

The educational resources within the home, regardless if those are conditions for learning or habits related to reading and writing, are often related to the students' language literacy.

The table below shows the results of the students who have various conditions for learning at home. The students who have their own room, desk and internet have achieved significantly higher results on the test in reading and writing compared to the students who do not possess these conditions for learning. Knowing the worse socio-economic circumstances of the Roma students, they

⁵² There is a statistically significant difference at the level of 0.05

rarely possess the abovementioned conditions for learning within the home, and it partly explains their poorer achievements.

TABLE 36. *Test results and the resources within the home*

RESOURCES	THEY DO HAVE		They do not have	
	Number of students	Average score percentage	Number of students	Average score percentage
Their own room	170	41,3 %	79	34,8 %
Desk	88	48,0 %	161	34,5 %
Internet	141	43,2 %	108	34,1 %

Even though it is usual for the number of books in the home to be an important resource which could be related to the results in reading and writing, the data in table 37 show greater differences in the achievements only between the students who do not have books at home or have up to 10 books and the students who have more books.

TABLE 37. *Number of books in the home and the achievements on the reading and writing tests*

NUMBER OF BOOKS IN THE HOME	NUMBER OF STUDENTS	AVERAGE TEST SCORE
0–10 books	59	33,4 %
11–25 books	30	43,3 %
26–100 books	44	40,6 %
101–200 books	19	42,7 %
More than 200 books	13	45,2 %

SUPPORT FROM THE FAMILY

According to the research studies, the reading habits are acquired at early age. Therefore, the presence of books at home, as well as the reading habits in the family, is important.

The frequent reading of books, together with the adults in the family, is related to the greater achievements of the students on the reading and writing tests. The engagement of the adult members of the family to help with the students' learning is also related to the students' achievements. Those students, who get regular help from the adults with their learning, achieved better results compared to those who never get any help. The students from families that discuss what

children have learned in the mother tongue classes, are more successful on the test.

TABLE 38. *Activities related to reading at home and the achievements on the test in reading and writing*

SUPPORT FROM THE FAMILY	ALMOST NEVER		SOMETIMES		OFTEN	
	Number of students	Average score	Number of students	Average score	Number of students	Average score
They read the books together	21	32,9 %	120	40,5 %	73	44,7 %
The adults help them with their homework in Macedonian/ Albanian language	70	38,5 %	78	42,8 %	54	44,1 %
They discuss with the family members what the learned at school, in Macedonian/ Albanian language classes	16	34,0 %	35	40,3 %	94	41,2 %

KNOWLEDGE OF THE LANGUAGE OF INSTRUCTION

The Roma students that follow lessons in Macedonian or Albanian language of instruction, some of them mostly speak the Roma language at home. According to the achievements that are shown in table 39, the students that speak the Roma language at home or speak a language which is different than the language of instruction, have significantly lower achievements compared to those who use the language of instruction at home.

Among all students, the language which is spoken at home, which is different than the linguistic norm (the dialect), is visible in the written texts or in the answers to the open-ended tasks.

TABLE 39. *Language spoken within the home and achievements on the test in reading and writing*

LANGUAGE WHICH IS USUALLY USED TO COMMUNICATE WITHIN THE HOME	NUMBER OF STUDENTS	AVERAGE TEST SCORE
Macedonian	137	42,6 %
Roma	42	35,3 %
Albanian	43	40,6 %
Other language	27	42,6 %

MARKS IN MOTHER TONGUE

The data on the marks in Macedonian language i.e. Albanian language, as a mother tongue at the end of the sixth grade (the end of the second cycle in primary education), were also collected from the students. The students' answers are intersected with the results on the test in reading and writing. Even though the test did not check every objective in the language curriculum, for example those in the domain of listening and talking, still a great similarity is visible between the test results and the students' grades.

TABLE 40. *Test results compared to the marks at the end of the sixth grade*

MARK IN THE 6 TH GRADE	NUMBER OF STUDENTS	AVERAGE SCORE PERCENTAGE ON THE TEST
A (5)	83	53,7 %
B (4)	51	42,8 %
C (3)	49	32,2 %
D (2)	44	22,6 %
Did not answer	22	25,8 %

However, since the tasks in the test measured the lower levels of curriculum objectives and only part of the objectives prescribed with the curriculum, it can be concluded that the assessment criteria of the teachers are lower compared to the ones given in the Programme documents prepared for the baseline research.

CONCLUSION

- ▶ The students whose parents have completed more than primary education have greater achievements. The parents of the Roma students, compared to the others, mostly have primary education or lower level of education.
 - ▶ The students whose fathers are employed have greater achievements compared to the students whose fathers are unemployed. This correlation does not exist with the issue of the mothers' employment.
 - ▶ Having better conditions for learning at home, as your own room, desk and internet, or at least the minimum number of books, is related to greater achievements in reading and writing.
 - ▶ If the language of instruction is generally spoken in the home, the students' achievements are greater. The students, who speak the Roma language at home, have poorer achievements in reading and writing.
 - ▶ The students who have the support of the adults when learning mother tongue, as reading together, help with the homework, discussing about what they learned at school, have greater achievements in reading and writing.
 - ▶ The achievements on the test in reading and writing are in correlation with the students' marks in mother tongue at the end of the sixth grade, but the teachers use lower criteria than the ones expected with the test.
-

3.2.2. STUDENTS' ACHIEVEMENTS ON THE TEST IN MATHEMATICS

METHOD OF MEASURING

The assessment of the achievements of the students is based on the results on the tasks that measure conceptual and procedural knowledge, understanding and application of numbers (natural numbers, fractions and decimal numbers), the four basic operations and their properties, as well as in solving textual tasks and problems.

The maximum number of points on the test was 34, which could have been obtained if the students provided the correct answer to 26 requirements, distributed in 13 tasks, which measure the knowledge and skills in the domains of:

- Concept of number – 4 tasks / requirements;
- Operations and properties of operations – 5 tasks (13 requirements);
- Problem situations – 4 tasks (7 requirements).

For easier understanding of the text given hereafter, which describes the test results, only the phrase “task” will be used in the Report and it will refer to both the tasks and the requirements in the test.

The data on the possible influences related to the family and the prior knowledge are obtained by a questionnaire.

The students' achievements are shown with the score percentile on the overall test and in the individual domains.

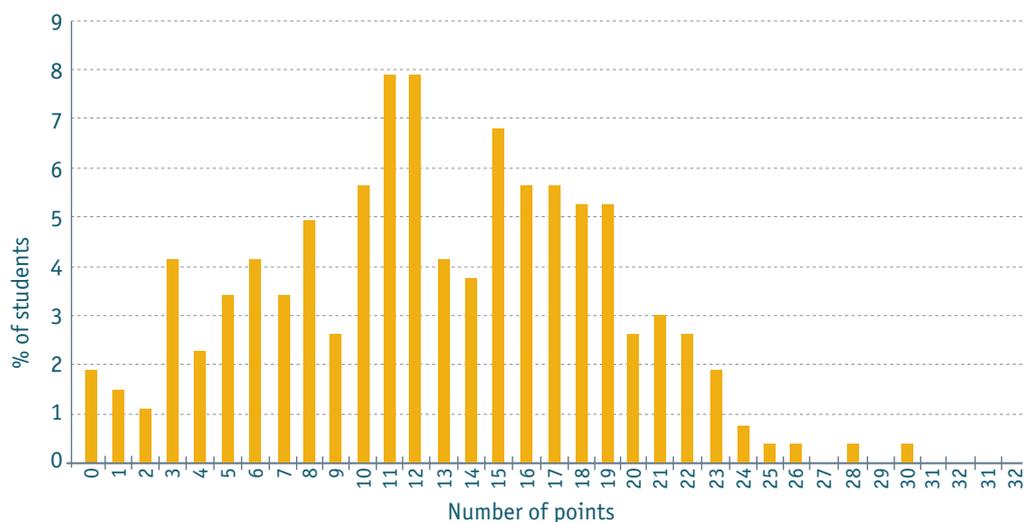
Bearing in mind the objective of the Programme, a special emphasis is placed on the comparisons of the achievements of the Roma students and the students of other ethnicities. The achievements are shown with tables and graphically and accompanied by verbal commentaries.

3.2.2.1. Students' achievements on the overall test

the maximum number of points set with the test, is 34 points. The average test result of all students (expressed by the number of points gained) is 12.6 points, i.e. the average test score percentile is 37%.

The graph below shows the achievements of all students.

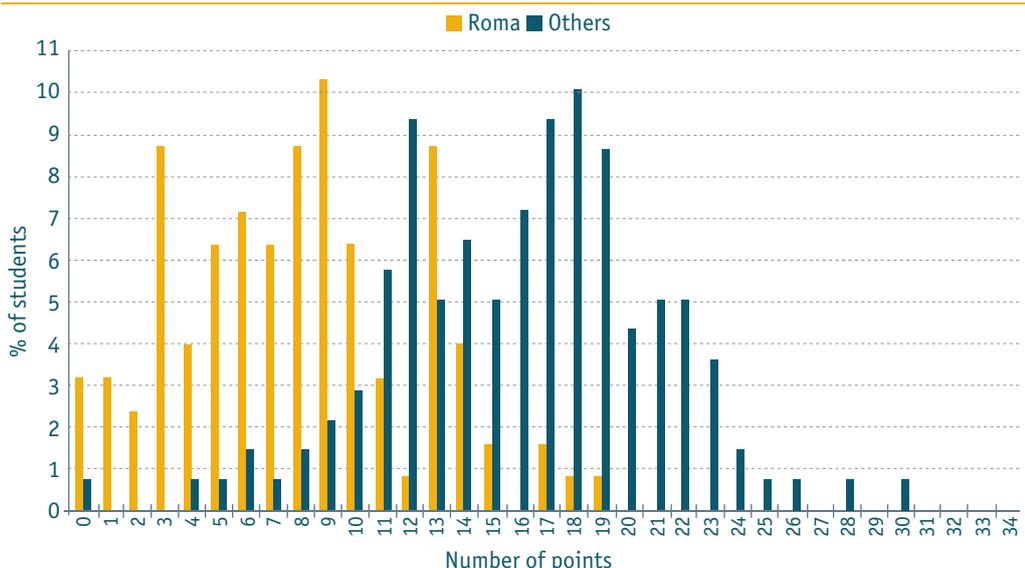
GRAPH 44. Result of all students on the mathematics test



Half the students gained up to 12 points on the test, and only 2% of the students belong in the group that gained more than 23 points (i.e. more than 2/3 of the test was solved). No student gained more than 30 points.

The following graph shows the comparative data on the achievements of the Roma students and the students of other ethnicities.

GRAPH 45. Result of the Roma students and the other students on the mathematics test



The comparative data show that the Roma students have significantly⁵³ lower achievements on the mathematics test compared to the students of the other ethnicities.

- The average test score among the Roma students is 26% (the average number of points is 8.8), and among the other ethnicities, the average score is 47% (the average number of points is 16.05).
- The highest result among the Roma students is 21 points (achieved by 1 student), and among the other students, the highest result is 30 points, also achieved by 1 student.
- The majority of Roma students have 11 points, and among the other ethnicities, the majority of students have a result of 18 points.

CONCLUSION

- ▶ The test results are lower than the expected results prescribed in the curriculum for mathematics for the sixth grade.
- ▶ The average task score among the Roma students is by 21 percentage points lower than the average score of the other ethnicities. The difference is statistically significant.

3.2.2.2. Students' achievements on the test in individual domains and types of tasks

The test contained tasks grouped in three domains (mentioned in the description of the method of measurement 3.2.2.). The tasks from each domain were numerical, graphic and textual.

The analysis was conducted on the achievements in each of the three domains. Moreover, an analysis was conducted by types of tasks (1) tasks given in the form of a numerical expression, with illustrations or graphically and (2) textual tasks where is required to read and understand a relatively longer text to solve them.

53 There is a statistically significant difference at the level of 0.01

STUDENTS' ACHIEVEMENTS ON THE TASKS FROM THE DOMAIN OF: NUMBERS

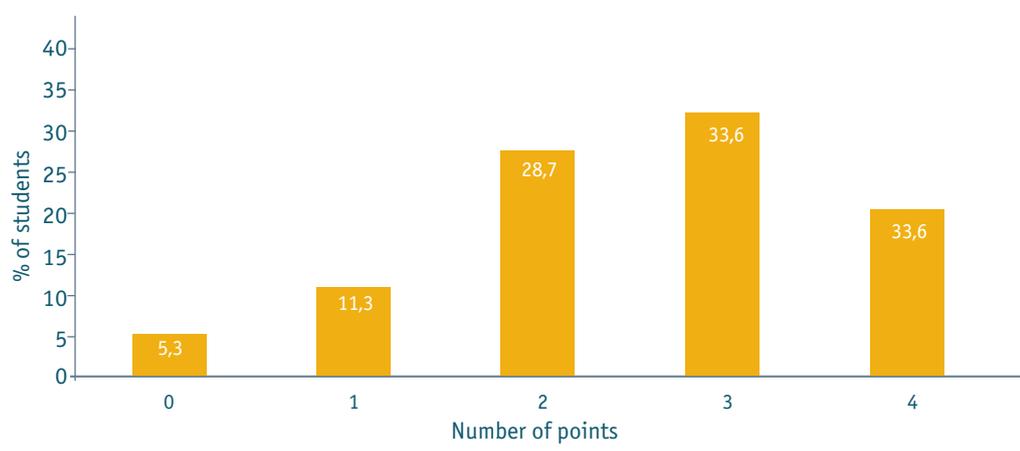
The students did 4 tasks within this domain and each task is worth 1 point. The task description is given in the table below.

TABLE 41. Tasks in the test in the domain of: Numbers

NUMBER OF THE TASK IN THE TEST	TASK DESCRIPTION
1.	Reading a 5-digit number
2.	Writing in fraction the number presented on a number line
3.	Writing a decimal number / understanding the decimal places in a decimal number
4.	Identifying a diagram that accurately presents a described situation with fractions

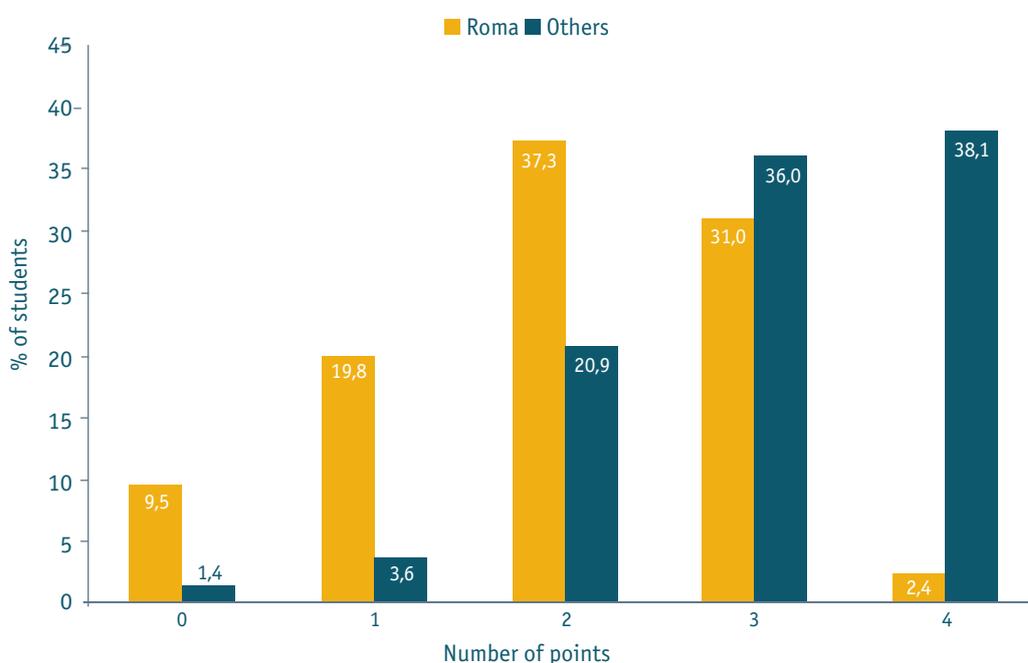
The students' achievements in this domain are shown in graphs 46 and 47, below.

GRAPH 46. Result of all students in the domain of: Number



The average results of all students who took the test, in the domain of Numbers, is 2.5 (the maximum available result is 4), i.e. in percentages 63%. More than half of the students achieved the result of 3 and 4 points, meaning they demonstrate a very good or excellent knowledge of the domain of Numbers.

GRAPH 47. Result of the Roma students and the students of the other ethnicities



The comparative data on the achievements of the Roma students and the students of other ethnicities show that the Roma students have significantly⁵⁴ lower achievements compared to the students of the other ethnicities.

- The average task score in the domain of Numbers among the Roma students is 49% (the average number of points is 2.0), and among the other ethnicities, the average score is 76% (the average number of points is 3.1).
- The highest result of 4 points among the Roma students was achieved by only 3 students, and by 53 students of the other ethnicities.
- The majority of Roma students have 2 points, and among the other ethnicities, the majority of students have the maximum 4 points.

The subsequent graph shows the percentages of correct answers to the tasks within the domain of: Numbers, comparatively for both groups of students. The number of the task in the graph is adequate to number of the task in the test mentioned in table 41 (above), which provides the description and requirements in each task.

⁵⁴ There is a statistically significant difference at the level of 0.01

GRAPH 48. Achievements of the Roma students and the students of the other ethnicities, by tasks



Graph 48. It can be observed that the most difficult task for all students, particularly for the Roma students, was task number 2, which is shown below.

TASK

Which fraction matches point A on the number line?



This task was done correctly by only 8% of the Roma students, and by half of the students of other ethnicities. The students were expected to write the answer on the dotted line or on the number line to write the fraction $2\frac{2}{3}$ or $\frac{8}{3}$ or write with words “two and a third” or “two wholes and a third” or “eight thirds”.

Task number 1 had the best possible solution, where for a given 5-digit number written with numerals, four answers were offered for writing the number with words. The correct writing was chosen by 85% of the Roma students and 98% of the students of the other ethnicities.

Based on the achievements of the Roma students and the students of other ethnicities, on the tasks from the domain of: Numbers, as regards the difficulty of

task 2 and task 4, it could be assumed that the teachers, when they are teaching fractions, do not make enough visual connections of dividing a whole into parts by marking a single point on the number line and presenting the fractions and situations with fractions in diagrams.

CONCLUSION

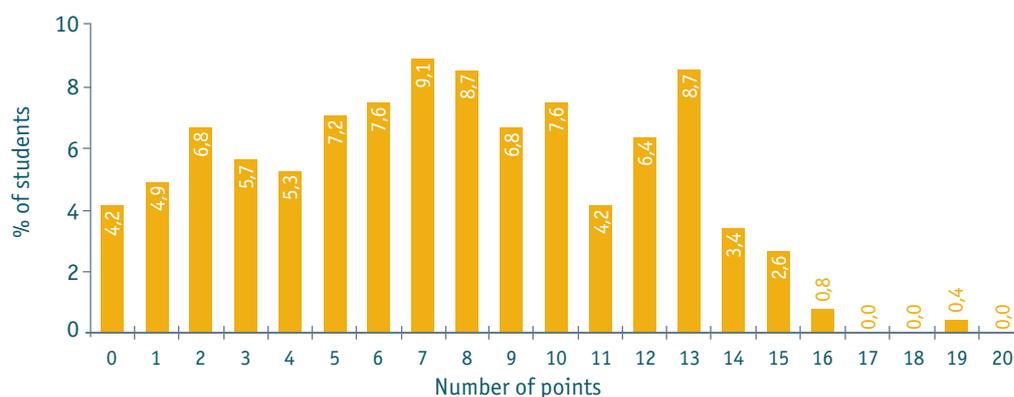
- ▶ For the students of other ethnicities, the task results from the domain of Numbers are above the expected results prescribed in the curriculum for the sixth grade. For the Roma students, the task results are on the level of the expected results prescribed in the curriculum for the sixth grade.
- ▶ The average task score of the domain of Numbers, among the Roma students, is by 27 percentage points lower than the average score of the other ethnicities. The difference is statistically significant.

STUDENTS' ACHIEVEMENTS ON THE TASKS IN THE DOMAIN OF: OPERATIONS AND PROPERTIES OF OPERATIONS

The students are learning the four basic arithmetic operations and properties of operations from the first grade within different sets of numbers (at the beginning up to number 10, then up to 6-digit numbers, fractions and decimal numbers), and so the tested students had experiences with the tasks in this domain for 6 school years.

The students' achievements in the domain of: Operations and properties of operations are lower compared with the students' achievements in the domain of: Numbers. Their result is shown in the graph below.

GRAPH 49. Result of all students in the domain of: Operations and properties of operations



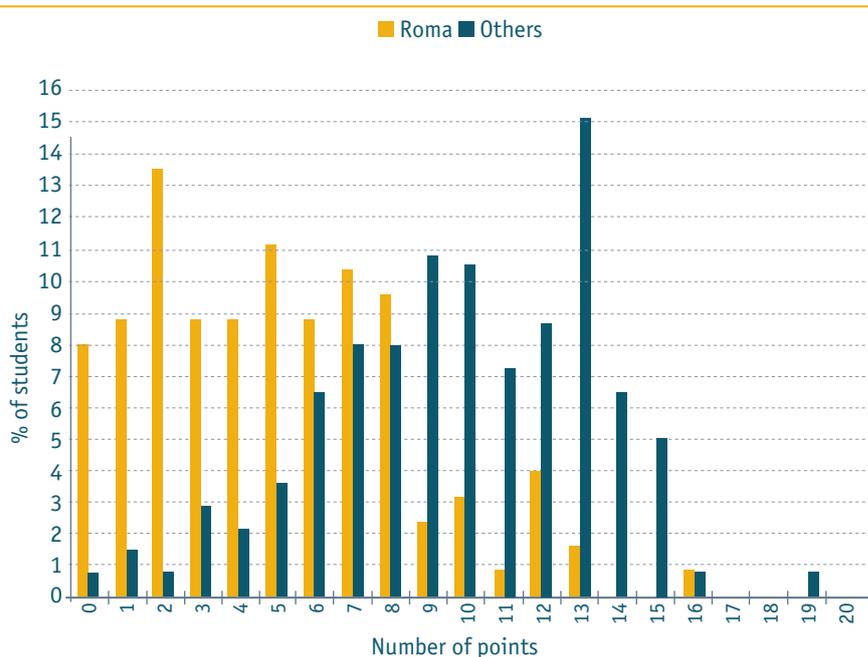
The students did 13 tasks: 7 tasks in operations and properties of operations in the set of whole numbers, 3 tasks with fractions and 3 tasks with decimal numbers. The maximum available number of points in this domain was 20 points.

The average points gained, by the tested students in this domain, is 7.5, i.e. the average score percentage is 37.5. The maximum result of 20 points was not achieved by any of the students.

Half of the students achieved up to 7 points, i.e. 50% of the students showed poor knowledge in the tasks related to the four basic mathematical operations and properties of operations.

Within this domain as well, the achievements of the students of Roma ethnicity are significantly⁵⁵ lower compared to the achievements of the students of other ethnicities (graph below).

GRAPH 50. Result of the Roma students and the students of other ethnicities in the domain of: Operations and properties of operations



The average task score among the Roma students is 25% (average number of points gained is 5.0), which is significantly lower than the score of 49% among the other ethnicities (average number of points gained is 9.8).

- Half of the Roma students gained up to 4.7 points, while for the students of the other ethnicities, the distribution is bimodal: one, larger group of students, has up to 10 points and another, smaller group, has above 11 points.

⁵⁵ There is a statistically significant difference at the level of 0.01.

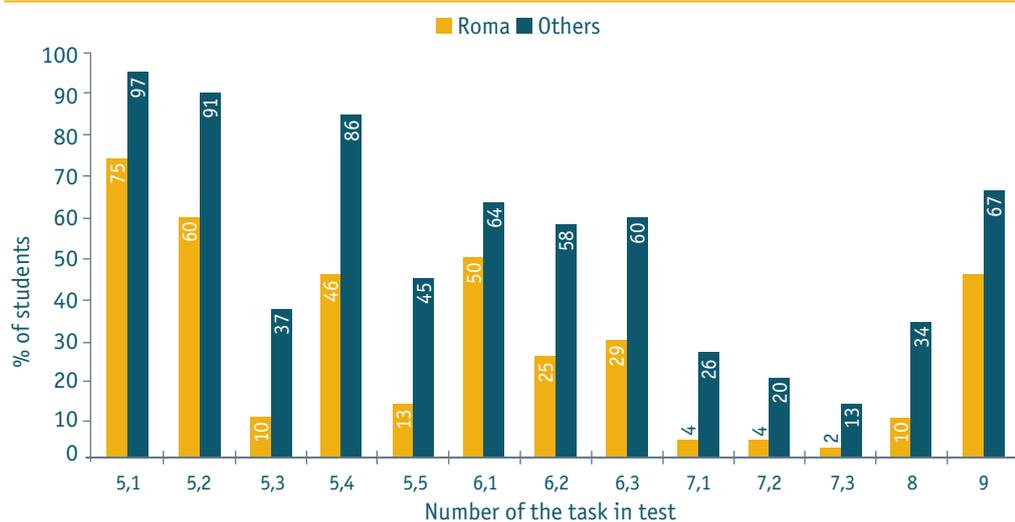
- The highest result among the Roma students is 16 points (achieved by 1 student), and among the other students, the highest result is 19 points, which was also achieved by 1 student.
- The majority of Roma students have 2 points, and the majority of students of the other ethnicities have 13 points.

A more specific description of the tasks in this domain is given in the table below, and the graph shows the students' achievements by tasks.

TABLE 42. *Tasks on the test in the domain of: Operations and properties of operations*

NUMBER OF TASK IN THE TEST	TASK DESCRIPTION
5.1.	Add two numbers up to 2-digits
5.2.	Subtract a 3-digit number of a 4-digit number
5.3.	Divide a 5-digit number with a 2-digit number
5.4.	Numerical expression with two operations and parentheses
5.5.	Numerical expression with two operations and no parentheses
6.1.	Numerical expression of addition and subtraction of a fraction with equivalent denominators
6.2.	Numerical expression of addition and subtraction of mixed numbers where the proper fractions are with equivalent denominators
6.3.	Add two fractions with equivalent denominators and multiply by a whole number
7.1.	Addition of decimal numbers
7.2.	Division of a decimal number by a whole number
7.3.	Multiplication of two decimal numbers
8.	Identify a number divisible by 3 and by 9
9.	Solving a simple equation by subtraction which includes 4-digit numbers.

GRAPH 51. Achievements of the Roma students and the students of other ethnicities, by tasks, in the domain of: Operations and properties of operations



The task numbers in the graph are adequate to the numbers in the table 42 with the task description. The graph shows the percentages of correct answers of the Roma students and the students of the other ethnicities for each individual task. The Roma students achieved significantly lower results on all tasks in this domain.

The graph shows that both the Roma students and the students of the other ethnicities have the best results on the tasks that measure the knowledge of operations and properties of operations with whole numbers. However, the analysis of the tasks shows concern about the students' knowledge of the requirements: division of a natural number by a 2-digit number (solved by 10% of the Roma students and 37 % of the students of other ethnicities), and solving a numerical expression without parentheses (13% of Roma students and 45% of the students of other ethnicities).

According to the students' answers on these two tasks, it can be assumed that the teachers teach the students just about the concept, and separated from the concept, they work more intensively on procedures. Therefore, the students learn procedures by imitating and practicing other than by understanding, which leads to the fact that the procedures are more easily forgotten or twisted. Moreover, it is difficult for the students to adapt to tasks which are somewhat diversified.

The graph shows that both the Roma students and the students of the other ethnicities, had problems with task number 7.3, where it was necessary to determine the multiplication result 2.56×3.2 (it was done by only 2% of Roma students and 13% of the students of the other ethnicities).

This task was assessed with 1 or 2 points, and 34% of all students gained 1 point, and 8% gained 2 points. The outlook of the solution and the task score percentage are given below.

TASK	SOLUTION	TASK SCORE	
		Roma	Others
Correct	Written 8.192 and the presented multiplication of two decimal numbers was accurate, or $\frac{256}{100} \cdot \frac{32}{10} = \frac{8192}{1000}$	1 %	4 %
Partially correct	There is a multiplication procedure and accurate writing of a decimal comma, but there are mistakes in the multiplication	2 %	18 %
Incorrect or inadequate		97 %	78 %

Taking the scoring method and the students' answers into account, it can be assumed that the reason for these students' results lies in the fact that they are required to learn the multiplication table "by heart", without insisting on understanding the multiplication concept. Therefore, the students who gained 1 point have learned the procedure for multiplication of decimal numbers, but the result was incorrect. The students are never encouraged, or only a little encouraged, to develop their own procedures for getting the solution and to make a connection of the different writings of decimal numbers.

CONCLUSION

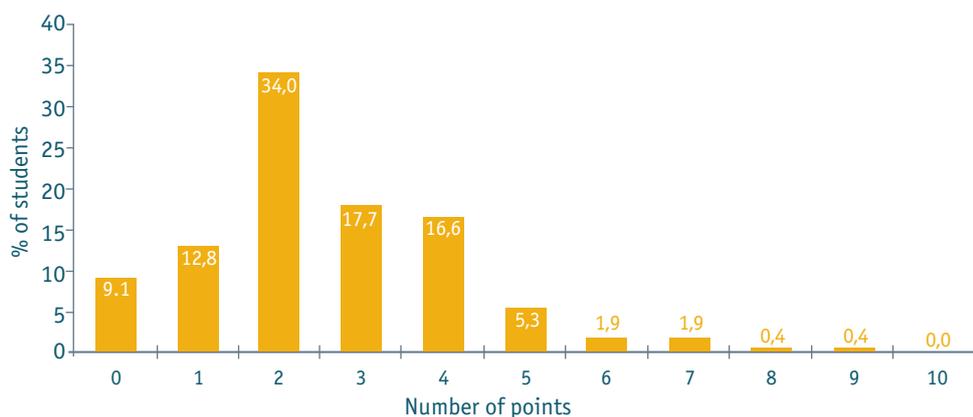
- ▶ The task results which measured the knowledge and abilities in operations and properties of operations are lower than the expected results prescribed in the curriculum for the sixth grade.
- ▶ The Roma students have 24 percentage points lower average score on the tasks in the domain of: operations and properties of operations compared to the other students.

STUDENTS' ACHIEVEMENTS IN THE DOMAIN OF: PROBLEM SOLVING

The students' achievements in the domain of problem solving are the lowest, in relation to the achievements in the other two domains (numbers and operations and properties of operations). The average score percentage is 26%, i.e. the average number of points gained by a student is 2.6 of the maximum available - 10 points.

Almost half of the students have only 1 or 2 points, and 9.1% did not solve any of the problems correctly.

GRAPH 52. Results of all students on the problem solving

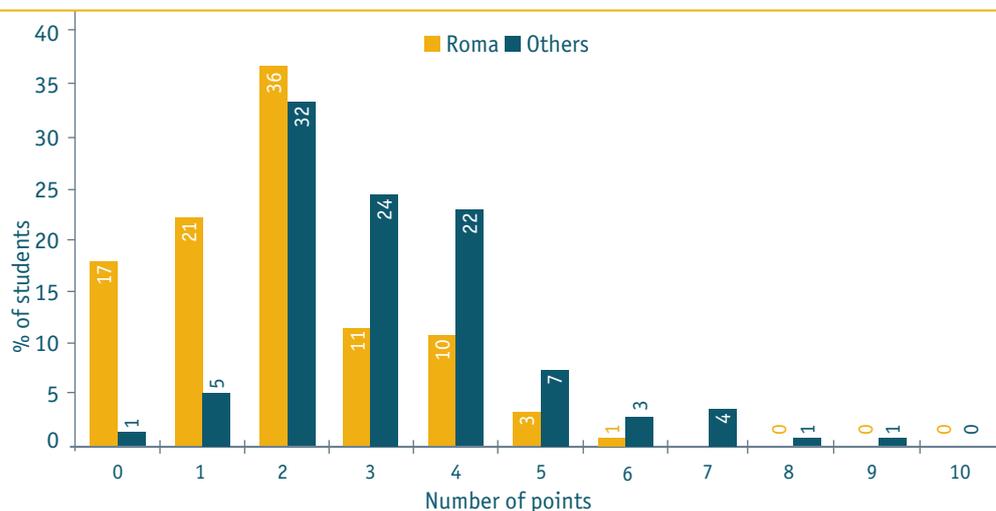


The comparative data on the students' achievements (graph below) show that the Roma students have significantly⁵⁶ lower achievements compared to the students of the other ethnicities.

- The average task score among the Roma students is 19% (the average number of points is 1.9), and among the other ethnicities, the average score is 32% (the average number of points is 3.2).
- The highest result among the Roma students is 6 points (achieved by 1 student), and among the other students, the highest result is 9 points, also achieved by 1 student.
- Among the two groups, both the Roma and the other students, the majority have the result of only 2 points.

⁵⁶ There is a statistically significant difference at the level of 0.01

GRAPH 53. Results of the Roma students and the students of other ethnicities



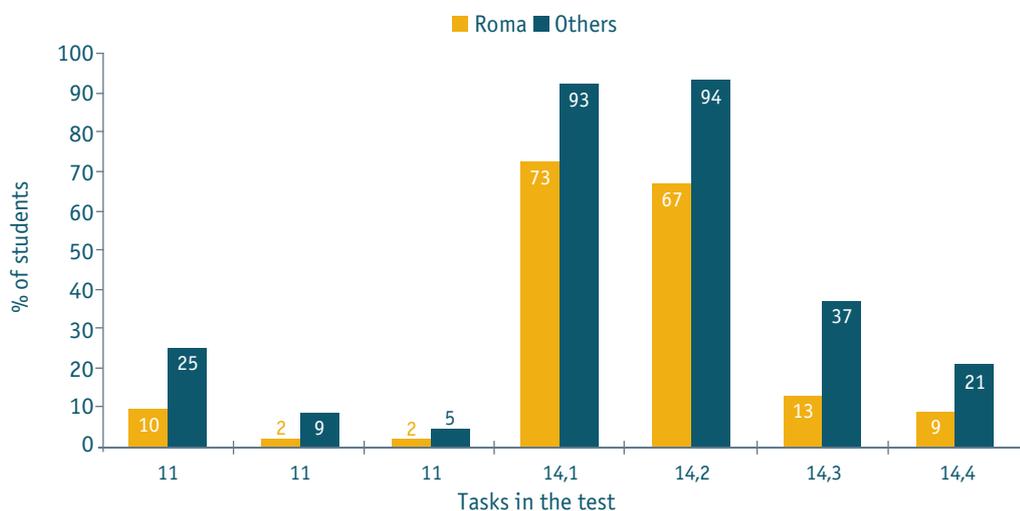
The description of the tasks in this domain, is given in the table below, and the percentages of the correct answers of the Roma students and the students of the other ethnicities, for each individual task, are given in graph 54.

TABLE 43. Tasks on the test in the domain of: Problem solving

TASK NUMBER IN THE TEST	TASK DESCRIPTION
11.	Situation with addition and/or multiplication of whole numbers.
12.	Situation with division and multiplication of natural numbers, which could be solved with or without an equation.
13.	Tasks where it is required to identify the greatest common divisor
14.1. to 14.4.	Tasks where it is required that the students first read and understand the data which are presented graphically.

The Roma students, in this domain as well, had lower results on every task.

GRAPH 54. Achievements of the Roma students and of the students of other ethnicities



It can be seen that the lowest results in this domain were related to task number 13. Only 3% of all students gained 1 point, and 2% gained 2 points.

Task 13 (given below) required the students to understand a given situation, present it with a numerical expression and solve it. Specifically, it was necessary for the students to understand that it is necessary to identify the greatest common divisor in the given problem and, at the same time, use their own procedure to solve the problem, i.e. use the understanding which they have already developed (as a logical task or with a drawing or...).

TASK

In the flower shop “Violeta”, there were 48 white flowers and 72 red flowers. The florist made equal bouquets from all the flowers, and each bouquet contained both red and white flowers.

How many bouquets did the florist make?

It can be assumed that the poor results on the task are due to:

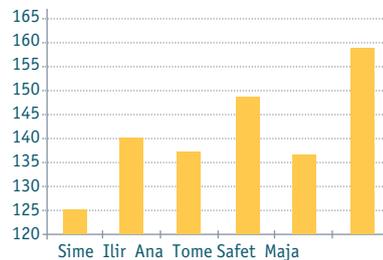
- jointly to the ability to apply concepts for problem solving, the students do not develop skills and understanding, as well as logical thinking;
- in a rare situations students are asked by teachers to use different methods for doing the tasks, which lead to the correct solutions;
- the students are not allowed, to a great extent, to solve the problems by themselves, on the classes where they learn new content or exercises, so

they are in a situation to think about the problems by themselves only during classes when they take the written exams.

In this domain, all students achieved the best results on the task from 14.1 to 14.4.

TASK

The height of 6 children, from the 7th grade, is shown on the bar graph. Their height is shown in centimetres. According to the diagram data, answer the following questions.



- How tall is Ana? _____
- Write down the names of the children who are taller than Safet? _____
- What is the difference between the tallest and the shortest child? _____
- If Ilir grows 5 cm in the following year, how much does Ana have to grow so they are the same height? _____

- The tasks 14.1 and 14.2 required the students to read data from a bar graph, and they were done correctly by 73% i.e. 67% of the Roma students, while among the other ethnicities 93% and 94% of the students did the tasks correctly.
- In the tasks 14.3 and 14.4, the students were required to connect the data given in the bar graph and draw a conclusion, and 13%, i.e. 9% of the Roma students had the correct result, while 37%, i.e. 21% of the students of the other ethnicities had the correct result. The results of the two tasks show that the students can read the results from the graphs, but they are unable to understand and connect them.

The possible reason for this situation is that even though the topic “Working with data” is studied from the early grades, it is not given serious consideration and some classes are used for improving the students’ knowledge of other teaching topics in the mathematics curriculum.

CONCLUSION

- ▶ The students' results on the problem solving situations are significantly lower than the expected results prescribed in the curriculum for the sixth grade.
- ▶ The students of Roma ethnicity achieved significantly lower results compared to the students of the other ethnicities.

STUDENTS' ACHIEVEMENTS OF THE DIFFERENT TYPES OF TASKS

The achievements in mathematics, particularly of the Roma students, could be influenced by the ability to read and understand the text in the task. Even though efforts were made for the test tasks not to contain much text, still some tasks needed to be read in order to get to the solution and understand the described situation, to separate the information and data which are necessary for the solution, to identify the operation or operations which will be used and afterwards make a numerical statement or do the task by using a different method.

To check the influence of reading comprehension on the tasks' results, an analysis of the achievements was conducted on the two sub-tests, according to the method of delivering the task. The tasks in the test can be divided into the following two groups:

- One group of tasks is delivered by numbers as a numerical expressions or graphically and contain a short question,
- Second group of tasks is delivered by a text which describes the situation which the student should understand and afterwards solve it.

The data analysis showed that there is a significant difference between the students' achievements when the two groups of tasks are compared. All students (both the Roma students and the students of other ethnicities) have significantly lower achievements on the textual tasks:

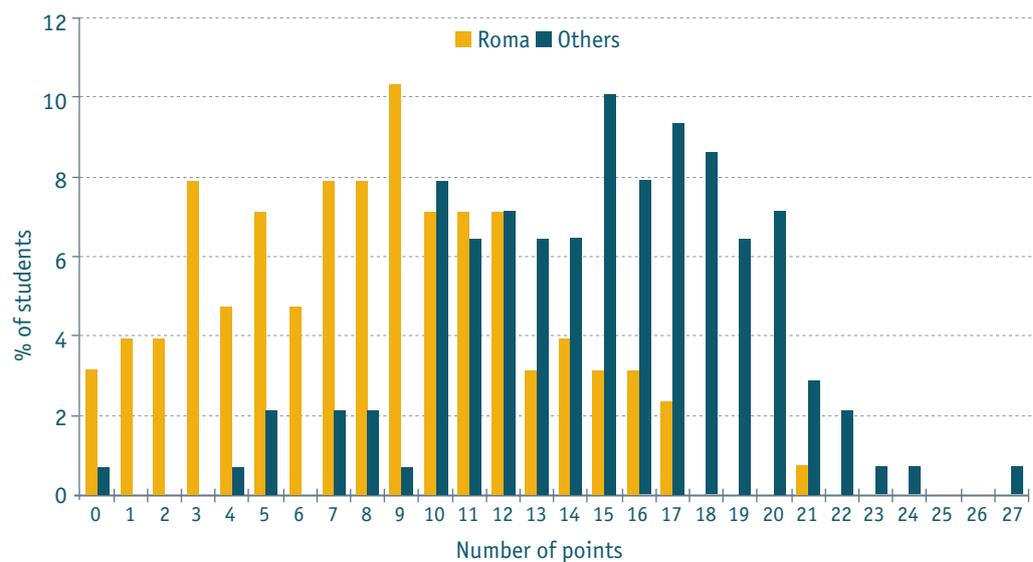
- The average score of the tasks given only with numbers, numerical expressions or which were presented graphically, is 42%.
- The average score of the textual tasks is 15%.
- Of the total number of tested students, 2% of the students did not offer the correct answer to any of the 28 tasks given only with numbers, numerical

expressions or which were presented graphically. More than one third (the 38%) of the students did not offer the correct answer to any of the 6 textual tasks.

Moreover, the graphs (given below) show that the Roma students have significantly lower achievements compared to the students of the other ethnicities on the both types of tasks:

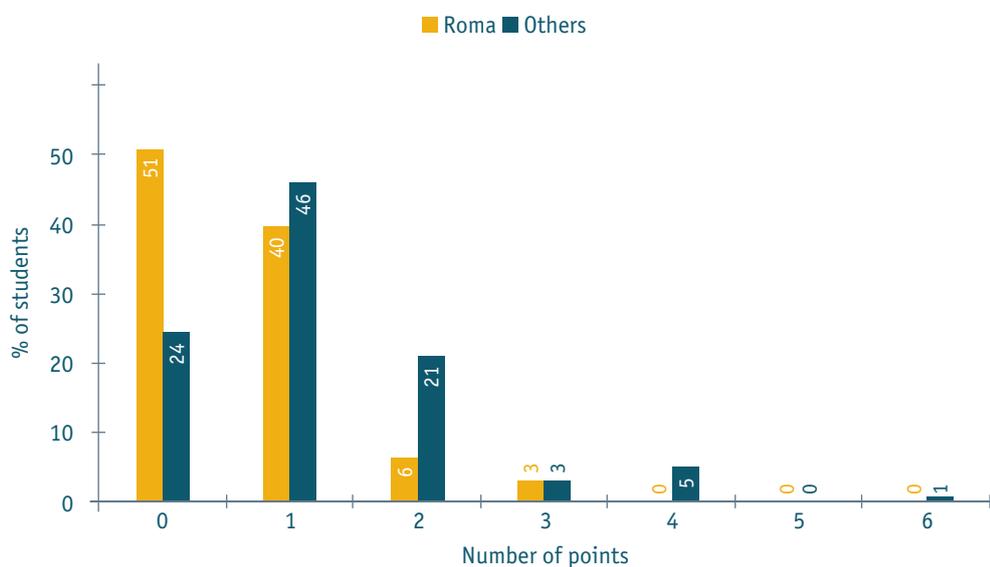
The average score of the tasks given only with numbers, numerical expressions or which were presented graphically, is 29% among the Roma students (the average number of points is 8.2), and among the other ethnicities, the average score is 53% (the average number of points is 14.8).

GRAPH 55. Results of the Roma students and the students of other ethnicities on the tasks given only with numbers, numerical expressions or presented graphically



- The average score of the textual tasks, among the Roma students, is 10% (the average number of points is 0.6), and among the other ethnicities, the average score is 20% (the average number of points is 1.2).
- 51% of the Roma students and 24% of the students of the other ethnicities did not offer the correct answer to any of the textual tasks.

GRAPH 56. Results of the Roma students and the students of the other ethnicities on the textual tasks



Based on the students' answers, and from the reports of the test administrators engaged in the research, it can be assumed that the reason for these results might be:

- that the majority of students, when reading the textual tasks, mostly look for the key words and numbers without thinking about the described situation;
- that some students only select the numbers and simply decide what to do with those numbers by looking at them, and not by looking at the text.

It points to the fact that during the instruction, the students are not offered sufficient time to contemplate after the given textual task, or they are not lead to it, which could be supported by the fact that during the examination, some students ask the test administrators which operation they should use, and a smaller number of students tried to understand the described situation.

CONCLUSION

- ▶ All students have lower results on the tasks which contain more text compared to the tasks which are given only with numbers of graphically.
- ▶ The Roma students, on both types of tasks, achieved significantly lower results compared to the other students.

3.2.2.3. Relationship of the results on the mathematics test with specific socio-cultural variables

METHOD OF MEASURING

The data on the possible family-related influences were obtained by a questionnaire. The questionnaire consisted of 9 questions about the parents' education and employment, the conditions for learning at home, the support of the family in learning mathematics, the language that the students speak at home, the grade in mathematics. The scale of attitudes was used to measure the beliefs about the flexibility or inflexibility of the mindset, which contained 16 items with two choices (true – false).

SOCIO-ECONOMIC STATUS OF THE PARENTS

The data related to the education and employment of the students' parents were collected to obtain detailed knowledge of the influence of specific out-of-school factors on the students' achievements.

As regards the data on the parents' education, it can be noticed that the students whose parents have a higher level of education achieve greater results on the test in mathematics, compared to the students whose parents have lower level of education:

- The average test score of the students whose mother has completed only the fourth grade is 27%, compared to the 42% test score of the students whose mother has completed secondary education.
- The average test score of the students whose father has completed only the fourth grade is 20%, compared to the 45% test score of the students whose father has completed secondary education.

The connection between the parents' employment and the students' results on the test show that there is no significant difference in the achievements of students whose mother is employed compared to the students whose mother is unemployed. However, there is a significant difference as regards the father's employment:

- The average test score of both the students whose mother is employed and the students whose mother is unemployed is 38%.
- The average test score of the students whose father is employed is 40%, compared to the test score of 32% of students whose father is unemployed.

SUPPORT FROM THE FAMILY

With reference to the correlation between the factor support from the family and the achievements in mathematics, the students were asked to answer questions on: how often do the adults in the family help them with their homework and how often do they tell their family members about what they learned at school on the classes in mathematics. The results show the following:

- There is no difference in the average test score as to whether the students receive help with their homework from the adults in the family. The average test score among the students who answered that the adults often help them with their homework is 37%, and among the students who do not get help from the adults, the test score is 40%.
- There is no difference in the average test score as to whether the students share with the family members what they have learned on the classes in mathematics. The average test score among the students who share what they have learned is 42%, and among the students who do not share is 36%.

HOME CONDITIONS FOR LEARNING

As regards to possession of resources which are related to the students' achievements (their own room, desk and internet), the data show that the students who own these resources have significantly greater achievements on the test in mathematics compared to those students who do not own them:

- The average test score of the students who have their own room is 40% and it is significantly higher compared to the students who do not have their own room (average score of 33%).
- The average test score of the students who have their own desk is 46% and it is significantly higher compared to the students who do not have their own desk – average score of 33%.
- The average test score of the students who have access to internet is 41% and it is significantly higher compared to the students who do not have access to internet – average score of 33%.

KNOWLEDGE OF THE LANGUAGE OF INSTRUCTION

During the study, the students were asked about the language they speak at home, in order to compare whether the language spoken at home is adequate to the language of instruction (to Macedonian, i.e. Albanian language of instruction) and how it is related to the students' achievements.

As expected, the data verify the assumption that the students who speak the Roma language at home (language which is different than the language of instruction) have lower achievements on the test in mathematics. The average score of the test in mathematics of the students who speak the Roma language within their home is 28% and there is a significant difference compared to the average test score of the students who speak Macedonian language (39%), i.e. Albanian language (49%) within their home.

MARKS IN MATHEMATICS

One question from the students' questionnaire, was asking the students about their mark in mathematics at the end of the sixth grade (the end of the second cycle of primary education). The students' answers were intersected with the results on the test, and the data are worrisome considering the fact that the students, to do the tasks in the test, were required to have general knowledge of what was prescribed in the curriculum.

TABLE 44. *Test results according to the marks at the end of the sixth grade*

MARK IN MATHEMATICS IN THE 6 TH GRADE	NUMBER OF STUDENTS	AVERAGE SCORE PERCENTAGE ON THE TEST
A (5)	53	51,7
B (4)	34	46,0
C (3)	64	38,9
D (2)	58	23,2
Did not answer	56	29,9

The students, who had better results on the test, had higher grades in mathematics at the end of the sixth grade. However, it seems that the teachers have lower requirements compared to the requirements set in the test within this study. Therefore:

- The students who completed the sixth grade with highest mark (5) in mathematics (53 students), had the highest result of the test, however they gained only about 51.7% of the total number of available points;
- The poorest test score – 23.2% of the total number of available points, belongs to the students who at the end of the sixth grade had a lowest mark (2) in mathematics (58 students).

CONCLUSION

- ▶ The students whose parents have completed more than primary education have greater achievements. The parents of the Roma students, compared to the others, mostly have primary education or lower level of education.
 - ▶ The parents' employment is not related to the students' achievements.
 - ▶ The students' answers, about the level of help they receive from the parents with learning and with their homework, are not related to the achievements in mathematics.
 - ▶ The students, who speak a language which is different than the language of instruction (Macedonian or Albanian) within the home, have poorer achievements compared to the students who speak the language which is also the language of instruction.
 - ▶ The achievements on the test in mathematics are in correlation with the students' marks in mathematics at the end of the sixth grade, but the teachers use lower criteria than the ones set with the test for this research.
-



APPENDIX 1.

AVERAGE SELF-ASSESSMENTS OF THE PILOT-SCHOOLS ON THE INDICATORS FOR INCLUSIVE EDUCATION

DOMAIN 1. TEACHING PLANS AND CURRICULA	
INDICATORS	AVERAGE VALUE
1. 1. THE MODELS OF PLANNING WHICH ARE USED IN THE SCHOOL FOCUS ON THE STUDENTS' NEEDS AND ENABLE THE PLANNING OF DIFFERENTIATED INSTRUCTION.	
1.1.1. The planning (annual, process-development) is based on an analysis of the previous achievements;	2,43
1.1.2. The differentiated working in the classroom was planned in almost all process-development planning or in the daily preparations;	2,43
1.1.3. It is also planned to provide and use differentiated teaching aids;	2,14
1.1.4. It is planned to use various sources of learning (texts, manipulatives, internet, etc.) in almost all teaching subjects and extra-curricular activities;	3,00
1.1.5. It is planned to have different types of joint interaction and mutual support of the students with different abilities, social and cultural background, within the curricular and extra-curricular activities;	2,71
1.1.6. The teachers have the freedom to change the plans depending on the progress of different groups of students;	2,00
1.1.7. The teachers help each other in planning and in realization of the approaches to working with students from the vulnerable groups.	3,00
1.2. THE PLANNING ENABLES AN INCLUSION OF THE STUDENTS FROM VULNERABLE GROUPS.	
1.2.1. The children with developmental disabilities and the children of the other vulnerable groups are equally allocated in the classes;	3,14
1.2.2. The planned materials and realized activities take the linguistic and cultural differences between the students into account;	3,29
1.2.3. The subject 'Roma language and culture' is offered as an optional subject in the school.	2,83
1.3. INDIVIDUAL EDUCATIONAL PLANS (IEP) ARE DRAFTED FOR THE CHILDREN WITH DEVELOPMENTAL DISABILITIES.	
1.3.1. The IEP are drafted as a team (all teachers who teach the student, the support staff, parent, student);	2,29
1.3.2. The IEP are drafted for all children with developmental disabilities;	2,14
1.3.3. The IEP are drafted on the basis of an analysis of the students' progress in learning, the responsibilities are identified, as well as the dynamic and the method of monitoring the realization;	2,00
1.3.4. The IEP contain sections for involving the students in the extra-curricular activities;	1,57
1.3.5. The IEP goals are real, measurable and procedures are planned to monitor and assess their achievement;	2,00
1.3.6. The parents of the students with developmental disabilities are involved in the drafting, realization and monitoring of the IEP;	1,57
1.3.7. The social and cultural background of the student is considered during the drafting of the IEP.	1,86





DOMAIN 2. STUDENTS' ACHIEVEMENTS	
INDICATORS	AVERAGE VALUE
2.1. PROVIDED COVERAGE OF ALL STUDENTS FROM SOCIALLY VULNERABLE GROUPS.	
2.1.1. All students of Roma ethnicity, within the school district, are included in the first grade;	3,43
2.1.2. All students of Roma ethnicity, within the school district, attend regular classes;	2,14
2.1.3. The percentage of students of Roma ethnicity, who learn according to IEP, is somewhat the same as the percentage of students of the other ethnicities;	1,86
2.1.4. The students of Roma ethnicity are involved in the extra-curricular activities adequately to their number in the school;	3,14
2.1.5. All students with a developmental disability, within the school district, who should attend regular classes according to the law, are included;	3,43
2.1.6. There are visible results in the individual development of the students with disabilities according to their IEP;	2,29
2.1.7. There are no students with developmental disabilities who are transferred in special schools in the course of the school year	2,57
2.2. THE SCHOOL SYSTEMATICALLY DETECTS THE STUDENTS FROM SOCIALLY VULNERABLE GROUPS AND PROVIDES THEM WITH SUPPORT ACCORDING TO THEIR NEEDS.	
2.2.1. The school has established procedures for timely detection and monitoring of the progress of students who encounter learning difficulties;	2,71
2.2.2. For each student, for whom additional learning support is being provided, there are records about the type of needs and support that are updated at least 4 times a year;	2,57
2.2.3. Differentiated instruction, individual activities and additional instruction are carried out for the students with special educational needs;	2,57
2.2.4. The students with disabilities, as well as those from the socially vulnerable groups, are involved in the extra-curricular activities.	2,57
2.3. THE TEACHERS TREAT ALL CHILDREN (REGARDLESS OF THEIR BACKGROUND AND ABILITIES) IN A WAY WHICH REFLECTS THE BELIEF THEY MAY LEARN AND CAN LEARN..	
2.3.1. The teachers believe they can influence the improvement of the students' abilities;	2,57
2.3.2. The teachers make an effort not to create negative opinions about the students who study hard, in order for them not to be considered as "swots";	3,00
2.3.3. The teachers make an effort not to create negative opinions about the students with learning difficulties;	3,14
2.3.4. The students are encouraged to take responsibility for their learning;	3,14
2.3.5. The teachers conduct the instruction using various interactive methods and ALL students are encouraged to actively participate in the instruction;	3,29
2.3.6. The teachers are aware that they are crucial for the acceptance and learning of the students in the school;	3,14
2.3.7. The students with special educational needs are supported by various extra-curricular activities.	2,43





2.4. ALL STUDENTS HAVE MAXIMUM ACHIEVEMENTS IN RELATION TO THEIR POTENTIAL

2.4.1. There are records of the achievements of the students of possible vulnerable groups (according to the social status, parents' education, ethnicity, whether the language of instruction is their mother tongue);	3,00
2.4.2. There is an analysis of the reasons for failure of the students from the different socially vulnerable groups, including the students of Roma ethnicity, and measures are taken to prevent/overcome those reasons;	2,86
2.4.3. The employees and the students are proud of the success of all students in different domains;	3,43
2.4.4. The success of the students of socially vulnerable groups, including the students of Roma ethnicity, is improved year by year;	3,00
2.4.5. There is a steady increase of the percentage of students of Roma ethnicity who make progress in their generation;	2,67
2.4.6. The differences in the average general success of the Roma students and the students of other ethnicity are decreasing, year by year;	2,43
2.4.7. The students with disabilities achieve the objectives set in their IEP;	2,00
2.4.8. The differences in the achievements of the students with disabilities and the other students, are within the frame of justification by the type and the level of disabilities;	3,14
2.4.9. There is a steady decrease of the percentage of Roma students who were subject to disciplinary measures;	2,71
2.4.10. The percentage of Roma students, who were subject to disciplinary measures, is not very different compared to the percentage of students of the other ethnicities;	286

DOMAIN 3. LEARNING AND TEACHING

INDICATORS	AVERAGE VALUE
3.1. THE SCHOOL HAS PREPARED, IN ADVANCE, THE MECHANISMS FOR ASSISTING THE TEACHERS, PARENTS AND CHILDREN IN THE JOINT WORK TO IDENTIFY AND HELP THE STUDENTS WITH SPECIAL EDUCATIONAL NEEDS.	
3.1.1. The school has strategies for making an intervention within the school, the family and the community when the attendance and the achievements of the students from vulnerable groups are not satisfactory;	3,00
3.1.2. The support staff is involved in monitoring the development of all students in the first grade;	3,43
3.1.3. The teaching personnel and the support service systematically detect the educational needs of the students, as well as the learning difficulties of every student and undertake activities for their realization, i.e. their overcoming;	3,29
3.1.4. The students who follow the lessons on a language which is different than their mother tongue, are given specific support to learn the language of instruction, outside the regular teaching plan;	2,50
3.1.5. The school dedicates particular attention to the professional orientation of the children from socially vulnerable groups and the children with developmental disabilities;	3,00
3.1.6. The majority of the teachers keep extensive and methodical records on the achievements, attendance and behaviour of ALL students, as well as their intellectual, social and emotional development.	3,14





3.2. THE TEACHERS ADAPT THE CURRICULUM, THE LESSONS AND THE SCHOOL ACTIVITIES TO THE NEEDS OF THE CHILDREN OF DIFFERENT ABILITIES AND BACKGROUND.

3.2.1. The teachers adapt the content and activities, on the class and after the class, to the needs of the students of different background and abilities; **2,71**

3.2.2. During the class, the teachers use individualized approach with the students with special educational needs; **2,57**

3.2.3. There is enough teaching content and activities that are carried out to facilitate the understanding of differences in the background, culture, ethnicity, religion, abilities, gender; **3,14**

3.2.4. The teachers are planning and carrying out objectives related to the interethnic integrated education; **3,14**

3.2.5. Plenty of adequate learning materials are provided/adapted for the children who work according to an IEP; **1,43**

3.2.6. The school collaborates with the resource centres (the special schools) and other relevant institutions and provides support for the realization of the IEP; **1,71**

3.2.7. The class timetable allows for a maximum interethnic collaboration and communication between the students and teachers; **2,43**

3.2.8. The students are allowed to work in their own pace; **2,86**

3.2.9. The children, who are included in the educational system later on, are allowed to make progress through adapted programmes and activities. **1,86**

3.3. 3.3. THE SCHOOL HAS A DEVELOPED SYSTEM OF DIAGNOSTIC, FORMATIVE AND SUMMATIVE ASSESSMENT OF THE STUDENTS WITH SPECIAL EDUCATIONAL NEEDS.

3.3.1. The school has harmonized assessment criteria and both the students and the parents are thoroughly introduced to the criteria; **3,00**

3.3.2. The assessment criteria are strictly applied towards all students; **3,00**

3.3.3. The formative assessment is used by the teachers to direct the learning of the students, particularly of those who have learning difficulties; **2,86**

3.3.4. The teachers' comments about learning refer to the made effort, and not the students' abilities; **2,71**

3.3.5. The majority of students do not fear wrong answers or failure; **3,00**

3.3.6. The students are involved in the assessment of their own learning and achievements; **2,67**

3.3.7. The teacher assesses the achievements of the students with disabilities according to the drafted IEP; **2,00**

3.3.8. The parents are informed about their child's progress in each teaching subject, including the information about the personal and social development of the child. **3,29**





DOMAIN 4. SUPPORTING THE STUDENTS

INDICATORS	AVERAGE VALUE
4.1. THE SCHOOL MODIFIES AND ADJUSTS ITS POLICY AND PRACTICE IN ORDER TO ENABLE ALL CHILDREN, (REGARDLESS OF THEIR BACKGROUND AND ABILITIES) TO PARTICIPATE IN THE SCHOOL AND OUT-OF-SCHOOL ACTIVITIES.	
4.1.1. The students with a physical disability learn in classrooms which are accessible and adequately equipped;	1,86
4.1.2. The school collaborates with the parents, with the resource centres and the other relevant institutions and organizations for providing care for the students with disabilities/physical disabilities and from socially vulnerable groups;;	2,86
4.1.3. The students help and care about their classmates with disabilities and from socially vulnerable groups, including the Roma;	2,86
4.1.4. The access to the school is adapted to the needs of the students with physical disabilities;	1,71
4.1.5. The area in the hallways and in the classrooms allows the students with physical disability to be in motion;	2,29
4.1.6. The equipment in the classrooms is adequate to the students' needs and there is an adapted lavatory for the students with physical disabilities, which is accessible for their use;	1,43
4.1.7. The school has prescribed procedures for providing material means to help the students from socially vulnerable families (for provision of school appliances, participation on school trips, performances, games, and similar) and carry them out in practice.	2,00
4.2. THE STUDENTS RECEIVE SUPPORT FOR LEARNING.	
4.2.1. Group work with the students and working in pairs are used to encourage the development of collaboration and communication between the students (with disabilities, the Roma students and the other students in the class);	3,00
4.2.2. The students with learning difficulties are accepted by the teachers and by their classmates and they receive support and assistance from them;	3,14
4.2.3. The school has programmes and protocols which define the behaviours of the children and adults, which are considered as psychological and physical violence, as well as directions for prevention and management, and they are strictly applied;	3,00
4.2.4. The school encourages and motivates collaboration between the students and it also promotes an intercultural communication and respect for diversities.	3,29





DOMAIN 5. SCHOOL CLIMATE AND RELATIONSHIPS IN THE SCHOOL	
INDICATORS	AVERAGE VALUE
5.1. THE DIVERSITIES ARE RESPECTED AND THE COLLABORATION BETWEEN THE STUDENTS WITH DIFFERENT ABILITIES, SOCIAL, CULTURAL AND ETHNIC BACKGROUND IS ENCOURAGED.	
5.1.1. The school is recognized within the environment by its acceptance of students from vulnerable groups and students with special educational needs and as a school without discrimination;	5.1.1.
5.1.2. The school's setup shows that it has students from various communities, whose diversities are respected;	3,57
5.1.3. The works of the students are exhibited. The works were created together by students of different ethnicities;	3,14
5.1.4. The desks are lined in a way that enables group work and mutual collaboration;	2,43
5.1.5. The teachers allow activities where the students are grouped according to their interests;	2,57
5.1.6. There are plenty of extra-curricular activities, which include students with different abilities, social, cultural and ethnic background;	3,00
5.1.7. The teachers create a climate to overcome gender, ethnic, religious and other stereotypes and prejudices in relation to the cultural differences, abilities, physical disability, intellectual disability, etc.;	3,14
5.1.8. All teachers treat the students in the same manner, which promotes acceptance, respect, collaboration, tolerance, understanding and trust;	3,14
5.2. THERE IS A MUTUAL COLLABORATION BETWEEN THE EMPLOYEES AND STUDENTS.	
5.2.1. The students know who to turn to if they have a problem;	3,43
5.2.2. The students are able to express their ideas and receive support for the realization of the activities for learning and socialization;	3,00
5.2.3. The students treat the school's employees and classmates with respect;	2,71
5.2.4. Within the curricular and extra-curricular activities, the students develop trust, collaboration and friendship;	3,14
5.2.4. The students help each other with learning and in other activities;	3,00
5.2.5. The mutual respect of the teachers is a model of behaviour for the students.	3,00
5.3. THE STUDENTS AND PARENTS FEEL GOOD AT THE SCHOOL.	
5.3.1. The parents from socially and culturally deprived environments and from all nationalities are involved in the school's activities and feel welcome;	3,00
5.3.2. There is a reduction of the number of parents, including the Roma parents, who avoid participating on the parent meetings, counselling and discussions with the educational personnel;	2,17



▶▶▶	5.3.3. Everyone in the school is responsible for the hygiene, organization and order in the school;	3,00
	5.3.4. There are different types of working with the parents to overcome the stereotypes and prejudices on any grounds;	2,71
	5.3.5. The parents receive information and support to accept and support the children with developmental disabilities;	3,00
	5.3.6. The students and parents see the school as a safe, stimulating, inclusive and motivating environment;	3,14
	5.3.7. The students learn how to recognize and are able to deal with specific situations related to discrimination in a school context.	3,00
	5.4. THE STUDENTS AND PARENTS ARE ADEQUATELY INVOLVED IN THE DECISION-MAKING.	
	5.4.1. The students form socially vulnerable groups, including the students of Roma ethnicity, as well as the students with special educational needs, are involved in the work of the student community on every level;	2,43
	5.4.2. The parents of all social and cultural environments, including those of Roma ethnicity, are involved in the Parents' Council and in the School Board;	3,29
	5.4.3. The opinions of the students and parents are taken into consideration during the decision making.	3,14
	5.5. THE STUDENTS' AND PARENTS' RIGHTS ARE RESPECTED.	
	5.5.1. There is a prevention of a possible discriminating attitude of the teachers and other students towards the students of Roma ethnicity and there is an adequate reaction if it becomes apparent;	3,43
	5.5.2. Not many parents react or remove their children from the school, because there are students with disabilities or Roma students in their children's class;	3,00
	5.5.3. The school employees treat all students equitably and with respect, regardless of their gender, ethnicity, social background and abilities;	3,71
	5.5.4. The school is helping the parents of the students from socially vulnerable groups and the students with disabilities in fulfilling their social rights.	3,29
	5.6. THE SCHOOL COLLABORATES WITH THE LOCAL COMMUNITY ON IMPROVING THE SITUATION RELATED TO THE VULNERABLE GROUPS OF STUDENTS AND THE STUDENTS WITH DEVELOPMENTAL DISABILITIES.	
	5.6.1. The school collaborates with the NGOs for supporting the students from socially vulnerable groups and with developmental disabilities;	3,14
	5.6.2. Volunteers from the community are involved in the activities for supporting the learning of the students with special educational needs;	2,43





5.6.3. The students with developmental disabilities and the students from vulnerable groups are involved in the activities which the school is carrying out together with the local community;	2,43
5.6.4. The school collaborates with the local community in providing coverage and progress of the students from vulnerable groups;	3,00
5.6.5. The school and the teachers have regular collaboration and exchange experiences and practices with the other schools with majority of students from vulnerable groups;	2,29
5.6.6. There is an overall positive opinion about the school among the local community.	3,14
DOMAIN 6. RESOURCES	
INDICATORS	AVERAGE VALUE
6.1. THE FUNDS AND MATERIALS FOR INCLUSIVE EDUCATION ARE PROVIDED	
6.1.1. The school possesses the needed assistive technology for the students with disabilities;	1,43
6.1.2. The classrooms and lecture rooms are supplied with the appropriate teaching materials for learning the language and culture of the students of all ethnicities, including the Roma;	2,00
6.1.3. The students with special educational needs can borrow the teaching aids (games, books, educational software) for learning at home.	1,71
6.2. THE EDUCATIONAL PERSONNEL ARE PROFESSIONALLY PREPARED FOR INCLUSIVE EDUCATION.	
6.2.1. The support staff and teachers are trained to identify and work with students with special educational needs and use assistive technology;	1,86
6.2.2. The school has a special education teacher or it has a mobile special education teacher at its disposal to support the work with the students with developmental disabilities;	1,43
6.2.3. The school has employed teachers of Roma ethnicity;	1,50
6.2.4. The educational personnel is analysing and sharing the successful practice of supporting the students with special educational needs, including the students of Roma ethnicity.	2,71





DOMAIN 7. ADMINISTRATION, MANAGEMENT AND POLICY CREATION

INDICATORS	AVERAGE VALUE
7.1. WITHIN THE SCHOOL, THEY TAKE INCLUSION IN CONSIDERATION AND CONDUCT A POLICY AGAINST DISCRIMINATION ON ANY GROUNDS	
7.1.1. The school documents (statute, developmental programmes) contain elements of inclusive policy and measures against discriminatory behaviour;	3,17
7.1.2. The inclusion of ALL children in the district, including those from vulnerable groups and with developmental disabilities is a part of the school's strategic objectives;	3,57
7.1.3. The school has an Inclusion team which is composed of teachers, support staff, school principal, parents and students. The team collaborates with the resource centres (special schools) and other relevant institutions;	2,00
7.1.4. The school principal points out to the teachers that they are all responsible for the student who works according to the IEP, and not only the special education teacher, so all planned activities from the IEP can be fulfilled;	2,17
7.1.5. The school principal promotes the school as a model for inclusive education and carries out school policies that affirm the school's inclusiveness and interethnic integration in education;	2,50
7.1.6. The employees are actively involved in policy creation and improvement, as well as in the activities for their realization. During the creation of policies, the school takes into account the opinions of both the parents and the students.	3,00

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