



**unicef**   
unite for children

# COHORT ANALYSIS ESTIMATION OF THE DROPOUT PHENOMENON

SUBSAMPLE OF SCHOOLS FROM EPA NETWORK, INCLUDED  
IN SCHOOL ATTENDANCE INITIATIVE „*HAI LA ȘCOALĂ!*”



Bucharest, 2012



# COHORT ANALYSIS ESTIMATION OF THE DROPOUT PHENOMENON

SUBSAMPLE OF SCHOOLS FROM EPA NETWORK, INCLUDED IN  
SCHOOL ATTENDANCE INITIATIVE "*HAI LA ȘCOALĂ!*"

AUTHORS: Mihaela JIGĂU, Ciprian FARTUȘNIC (coord.)  
Otilia APOSTU, Magda BALICA, Bogdan FLORIAN, Irina HORGA, Lucian VOINEA

UNICEF Project Coordinator: **Luminița Costache,**  
Social Policy Specialist

Publishing ALPHA MDN  
Bucharest 2012

**Descrierea CIP a Bibliotecii Naționale a României**

**Cohort analysis estimation of the dropout phenomenon : subsamples of school from EPA network, included in school attendance initiative "Hai la școală" / UNICEF România, Otilia Apostu, Magda Balica, Bogdan Florian, ... – Buzău : Alpha MDN, 2012**  
ISBN 978-973-139-229-5

I. Apostu, Otilia  
II. Balica, Magdalena  
III. Florian, Bogdan

371.52

# TABLE OF CONTENTS

Introduction .....	5
1. Research Methodology.....	7
1.1. <i>Goal and Objectives</i> .....	7
1.2. <i>Research Methods</i> .....	8
1.3. <i>Research Panel</i> .....	8
2. Research Findings .....	9
2.1. <i>General Features of Schools and Their Communities</i> .....	9
2.2. <i>Annual Academic Loss</i> .....	12
2.3. <i>Cohort Academic Loss</i> .....	23
2.4. <i>“Hidden” Dropout</i> .....	31
2.5. <i>Causes to Differences between School-Reported and Research-Found Academic Loss Rates</i> .....	33
3. Conclusions .....	38
4. Recommendations for intervention.....	41
Annex .....	43



# Introduction

This study, conducted by a team of researchers at the Institute of Education Sciences between January and March 2011, would not have been possible without the special support that UNICEF Romania provided all through the research work. Moreover, this work capitalizes on the experience acquired by the IES team through its constant involvement in research projects focused on school participation issues related in particular to disadvantaged student groups: the diagnostic study on rural education, school participation of Roma children and youth, the longitudinal assessment of the rural education project, education system assessment using baseline indicators, piloting educational priority areas in Romania, integration of SEN children in mainstream education etc.

The idea for this study came from Mr. Edmond McLoughney, UNICEF Representative in Romania, during a monitoring visit at one of the schools included in the *School Attendance Campaign*. Starting from the observation that at the moment different practices and cultures are used to record drop-outs and from the fact that current regulations and methodologies are insufficiently harmonised and clear, the question has been raised whether it would be possible to carry out a systematic analysis of the phenomenon.

Hence, this research study started as an attempt to provide an answer to this question and to analyse the dropout phenomena using a different measuring method than the currently used one (generically called the "input-output" model), based on beginning- and end-of-school year data which are annually recorded and submitted to relevant authorities. For this, we focused on the cohort study of academic loss (and therefore of dropout and repetition) (which takes into account school participation trends for an entire educational stage), using data about each student in the researched schools/classes. With an alternative estimation to the size of the dropout phenomenon in the selected educational establishments, it was possible to make a comparison based on the official school-reported data and system-level dropout data.

Of course, this method is not free of pitfalls, as described in the study. Nonetheless, the data gathered through this research work allowed us to measure the annual academic loss and its categories (dropout, repetition), cohort loss, as well as to analyse the "hidden" dropout phenomenon. Moreover, starting from these data, our research also identified and analysed the root causes of differences between academic loss rates reported by schools and those identified during the research. Therefore, we believe that all the readers of this report, be they practitioners or theorists, will find the ideas and the information in our study most useful.

We would also like to thank for this report the management teams and teaching staff at the five schools that took part in the research (Homocea, Vladimirescu, Măcin, Săcele, and Reșița). They gave us access to school records, relevant statistical data and provided pertinent information about the situation of children included in the analysed cohorts. At the same time, school stakeholders supported us in the process of collecting information on drop-out child monitoring and registration procedures and on the challenges they were facing in that department.

For UNICEF Romania and for the Institute of Education Sciences, as well as for all the five schools that participated in the research, this study reflects the special concern for the situation of students who are at risk of dropping out or of children and youth who have already left school. We believe that an overview as close to reality as possible can actually help us get a better understanding of adequate interventions, be they systemic policies or county/local interventions. We think that this study is a step forward in that direction.

*The authors*

# 1

## Research Methodology

The beginning of September 2010 was the debut of the project *Scaling Up the EPA System in 24 Communities*, coordinated by the Institute of Education Sciences. This project is implemented as part of the School Attendance Campaign, initiated by UNICEF Romania in May 2010. During initial site visits planned in the project, it was noticed that some dropout-related data for the 2009/2010 school year showed smaller values than the estimates made during validation visits (carried out in April – May 2010). Moreover, in some cases, a drop was noticed in the number of officially recorded drop-out children compared to previous years, although those schools hadn't run specific interventions against dropout and unschooling over that period of time. Therefore, this study aimed at examining the potential leading causes to this situation, with the key research area focused on administrative decisions and methods used to record each of these cases.

### 1.1. Goal and Objectives

**The research goal** is to identify potential distortions/deficiencies in the way academic loss (dropout, grade repetition) data are recorded and reported at the level of the researched educational establishments, to assess current procedures and regulations used to record such cases and to come up with proposals for improvement.

The main **objectives** targeted during the research were the following:

- To estimate the **actual annual dropout rate** and the **cohort dropout rate** at primary and lower secondary levels for the period of 2006-2009 (school years: 2006/2007, 2007/2008, 2008/2009, and 2009/2010).



- To estimate **hidden dropout rate** and to scale up the facts found during the analysis to the network of the schools included in the 2010/2011 EPA project.
- To identify the **causes of potential differences** detected between annual dropout rates reported by schools and those identified during the research.

## 1.2. Research Methods

In order to achieve the set objectives, quantitative and qualitative methods were used, more precisely:

- Reviewing school records (gradebooks, official records) in order to carry out:
  - A cross-sectional analysis to estimate the actual annual dropout rate for the period of 2006-2010, by school year (2006/2007, 2007/2008, 2008/2009, 2009/2010);
  - A retrospective longitudinal analysis to identify primary and lower secondary dropout rate by cohort for the period of 2006-2009 (school years: 2006/2007, 2007/2008, 2008/2009, and 2009/2010);
  - A hidden dropout rate estimate for the 2009/2010 school year.

The longitudinal and retrospective analyses are frequently employed in the study of demographic events: death, fertility, nuptiality, divorce etc. By extension, a cohort may be analysed in relation to school life: from the moment it enters an educational stage to the time it completes that level of schooling. In demography, retrospective longitudinal analysis requires the observation of a given demographic phenomenon starting from the initial cohort headcount and the retrospective registration of cohort-associated demographic events (such as death). Our retrospective longitudinal analysis implied the observation of a specified student cohort from their entrance into primary school (1<sup>st</sup> grade), lower secondary school respectively (5<sup>th</sup> grade) until completion of these stages, writing down all their academic loss over this period of time.

Another research method we used was a survey based on individual interviews with representatives of management teams and teaching staff in order to identify the causes of differences/distortions in dropout data, and with parents/community stakeholders to get a better understanding of what may cause dropout data distortions.

## 1.3. Research Panel

Out of a total of 24 educational establishments included in the project *Scaling Up the EPA System in 24 Communities*, 5 schools were selected (two in rural area and three from small-sized urban communities) where significant dropout rate reductions had been noticed for 2009/2010 compared to previous school years' rates and to management team's estimates during the validation process started in the course of April-May 2010.

# 2

## Research Findings

We will further look at research findings correlated to the set objectives. Hence, after presenting the general features of the educational establishments included in the research panel and of their communities, a series of aspects will be analysed regarding:

- Annual academic loss by category (grade repetition, dropout etc.);
- Cohort academic loss;
- "Hidden" dropout;
- Causes to differences between annual academic loss rates reported by schools and those identified during the research;
- Proposals for improvement of current procedures and regulations used to record dropout and other academic loss categories.

### **2.1. General Features of Schools and Their Communities**

The main feature of the schools included in this study is their high dropout rate, which is either a relatively recent phenomenon in the history of the school or a constant phenomenon throughout time (e.g. Homocea School). Besides this shared feature, the schools in this study and the communities they belong to show a series of characteristics that, if generalised, may define common categories. Next, we will have a look at these characteristics from a territorial and socio-economic perspective, as well as in terms of school infrastructure, school population and the human resources engaged in the teaching process.

## ***General Features of Communities***

The schools in our study are located both in urban and in rural areas. Urban schools are generally positioned at the outskirts or in outer areas, well-demarcated in the respective localities – which fall into the category of small and medium-sized towns. Rural schools are situated in commune centres providing an education to the entire school age population from that community. Although located in rural areas, these communities are not too far from towns.

In terms of local development, the communities catered by these schools have access to key services, power supply and communications networks, but all of them show a need for developing their infrastructure, their access to public utilities and local transportation.

In these communities, school network is comprised of pre-primary, primary and lower secondary schools which are generally filled to capacity due to the great number of children in the community.

## ***Socio-Economic Features***

A feature of the communities where the schools facing dropout rate are located concerns their social and economic challenges.

- *Social component.* The communities where the schools are located are multiethnic, with a dominant population of Roma ethnicity most of the times. Here we come across two different groups: on the one hand, Romanianised Roma who have abandoned their traditions, language and costumes, and on the other hand, traditional Roma, with a strong ethnic identity. Families are usually large and multigenerational. The extended family, specific to these communities, is expected to act as labour force and source of income and as child-rearing support which is not always the case in real life. As far as family unity and cohesion are concerned, these communities include organised families. The social policy providing marriage incentives has helped legitimise many consensual unions in these communities, which has had a direct impact on family stability. At the level of these communities, there is a relatively low interest in education and sending children to school is considered a purposeless investment and/or a threat to the preservation of community customs.
- *Economic component.* The schools dealing with a high dropout rate are located in communities where the unemployment rate is elevated, businesses are under-represented, and jobs are almost inexistent. Therefore, the only interests of the community members still looking for income sources are traditional crafts or trade. But there are also communities where people live on the guaranteed minimum income or on sporadic work outside their household. Children are often engaged in income-generating activities carried out by their parents. From the age of 13-14 years, their family sees them as labour force and they are used for work inside or even outside the household, which has direct effects on school (non-)participation.

## ***School Population***

School population matches the ethnic profile of the people living in the community. As a rule, demographic censuses conducted in the community offer schools information about students and the need for teaching staff. If in some communities kindergartens cannot live up to the demand, as far as compulsory education goes, all children in the community are enrolled in school, even if they sometimes start 1<sup>st</sup> grade late due to their families' lack of interest and involvement.

Despite the fact that all school age children are enrolled in 1<sup>st</sup> grade, student headcounts take a gradual dive due to dropout, which in teachers' and families' opinion is caused by precarious economic conditions and the parents' lack of interest in school often mimicked by their children. That is why classes diminish their number of students and sometimes merge. Before the actual dropping out, there is a series of school population features highlighting the risk of early school leaving: high truancy, grade repetition and non-involvement in extracurricular activities. This series is completed by children with special educational needs who, in the absence of resource teachers and individual intervention plans, are exposed to the risk of dropping out. Each school included in the study has at least 10 children who have been assessed and diagnosed with special educational needs. In some of these schools, second chance classes are being held, but they also report a high dropout rate.

## ***School Infrastructure***

The schools in the communities included in the study have benefited from some investment (renovation, repairs, equipment), but additional need is felt for local government support. The major problem these schools have to deal with is the fact that they are overcrowded (students go to school in two or three shifts) due to lack of space. Some schools operate a kindergarten that lacks the equipment and furnishings specific to this level of education. This is one of the main reasons why children are not enrolled in kindergarten or are taken out of it, which has major effects on their later integration and adjustment to school life. In primary schools, 1<sup>st</sup> grade enrolment demand has led to multiple classes being created and thus to a two- or three-shift learning schedule or to classes filled beyond acceptable limits or any respect for minimum classroom comfort requirements.

The schools normally feature labs outfitted for various disciplines, even if their equipment is minimal. Due to lack of space, these labs are used as classrooms, making it impossible or difficult to hold specialised lessons there. Some schools are equipped with gyms and most of them have a computer lab.

## ***Human Resources***

The teachers in these schools are qualified. Teachers' job stability is an issue with some schools, while in others most teachers come from the community. The schools located in rural communities near towns employ commuting teachers who nonetheless don't outnumber local teachers.

Whilst core curriculum disciplines are taught by qualified teachers, most schools are short of school counsellors and resource teachers. Still, every researched educational establishment has hired a school mediator who plays a significant part in boosting school participation for the children in the community and in preventing dropout.

As for taking part in continuing professional development programmes, most teachers declare that they have attended various training modules in recent years. Unfortunately, many times, these courses didn't focus on working with children at risk of dropping out. So, lack of training was identified in relevant areas such as: inclusive education, multicultural education, curricular adjustment, school-family-community relationship etc.

## 2.2. Annual Academic Loss

In order to identify annual academic loss and cohort academic loss, a series of sources of information were used, namely:

- Gradebooks documenting cohort students who attended primary and lower secondary education in the period of 2006-2009 (who started 1<sup>st</sup>/5<sup>th</sup> grade in the 2006/2007 school year and finished 4<sup>th</sup>/8<sup>th</sup> grade in 2009/2010); for the retrospective longitudinal analysis of student cohorts, we looked at the period of 2006-2009 for both educational stages given that in some of the researched schools it was not possible to gain access to gradebooks and other school records for the analysed cohorts prior to five years, because those were archived in different locations;
- Matriculation registers kept by schools;
- Statistical questionnaires applied at beginning/end of school year for the year 2009/2010; in some schools, we didn't have access to end-of-school year statistical data collected before 2009/2010, because the administrative staff had been replaced approximately a year before (*the official statement was that the files containing those data had been deleted from the computer and there were no copies of the questionnaires filled out before the 2009/2010 school year*). Still, a principal mentioned that starting with that school year they were using special software to report electronically the main statistical data related to participation, resources, educational attainment etc. This electronic reporting system was encountered only in one school.

Going through the respective gradebooks was a long process due to multiple causes:

- The great number of children leaving the initial cohort during the four school years due to: grade repetition, dropout, transfer (for example, in one school, from one year to another more than 10 students from a class transferred to another school after their schoolteacher had left to a different school because of downsizing);

- The great number of children adding to the cohort through the “distribution” of students in one class to parallel classes (for example, in one school, during the 2008/2009 school year, the simultaneous learning system was discontinued and students were moved to other classes) and previous year’s repeaters or students coming back to school after a year’s absence due to living abroad.

An additional challenge came from the particularity of the communities where some schools operated, namely a very large number of children bearing the same last name.

In total, 112 gradebooks were consulted, with the following breakdown by school:

- Săcele Primary and Lower Secondary School (Braşov) - 16 gradebooks for primary education (4 parallel classes) and 8 for lower secondary education (2 parallel classes);
- No 1 Primary and Lower Secondary School from Reşita (Caraş Severin) - 12 gradebooks for primary education (3 parallel classes) and 8 for lower secondary education (2 parallel classes);
- Măcin Primary and Lower Secondary School (Tulcea) - 8 gradebooks for primary education (2 parallel classes) and 8 for lower secondary education (also 2 parallel classes);
- Homocea School of Arts and Trades (Vrancea) – 16 gradebooks for primary education (4 parallel classes) and 16 for lower secondary education (also 4 parallel classes);
- Vladimirescu Primary and Lower Secondary School (Arad) - 12 gradebooks for primary education (3 parallel classes) and 8 for lower secondary education (2 parallel classes).

Besides consulting/analysing the above-mentioned records, individual interviews were conducted with principals, teachers from the boards in charge of checking the accuracy of gradebook data entered by the teaching staff, other teachers and administrative staff (the discussions were not recorded, but they were later transcribed as key ideas). In general, the topics for discussion tackled during interviews concerned statistical reporting methods required or used by the school, reporting difficulties and problems, and school practices.

All schools gave access to the information needed for the research – for which permission had been asked prior to school visits – showing at the same time that they were willing to participate in the research conducted by the Institute of Education Sciences aiming at assessing current procedures and regulations used to record dropout cases and at coming up with proposals for improvement.

We will next analyse annual academic loss which, in theory, comprises the categories of dropout rate, grade repetition, expulsion, as well as cases of death. Academic loss, taken as a whole and by categories identified in our research (grade repetition, dropout rate, incomplete academic year), is analysed by grade (1<sup>st</sup>, 2<sup>nd</sup> ... 7<sup>th</sup>, 8<sup>th</sup>) and by educational stage (primary and lower secondary) over the period of

2006-2009. We also need to mention the fact that the figures presented correspond to a “pure” cohort – the cohort of students who started 1<sup>st</sup> grade in the 2006/2007 school year, leaving aside retained students from previous years or any transfers from other schools adding to the initial cohort.

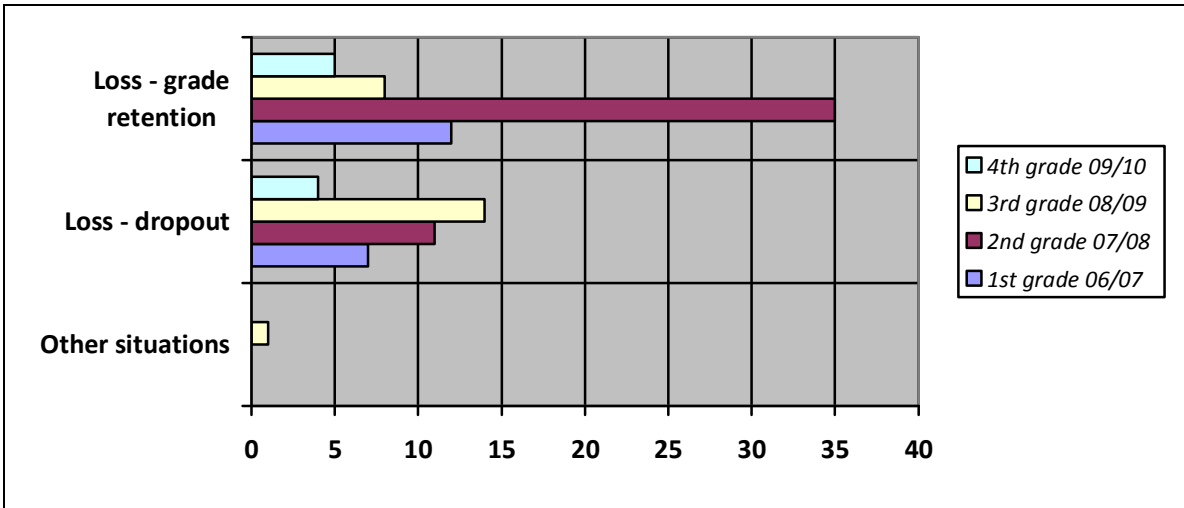
The primary school-related data presented in the table below indicate a high academic loss rate, especially for 2<sup>nd</sup> grade (13.10% - the highest value) and 3<sup>rd</sup> grade (7.54%). With the exception of 3<sup>rd</sup> grade, the highest loss comes from grade repetition, varying between 1.77% (4<sup>th</sup> grade) and almost 10% (2<sup>nd</sup> grade). Dropout-related loss reaches lower values, between 1.42% (4<sup>th</sup> grade) and nearly 5% (3<sup>rd</sup> grade, including one student with incomplete academic year).

As far as dropout rate is concerned, we notice that a pretty high share of cases is generated by migration abroad. The related dropout rate varies between approximately 1% (2<sup>nd</sup> grade) and almost 2% (3<sup>rd</sup> grade) per overall cohort, namely between 27% (2<sup>nd</sup> grade) and 71% (1<sup>st</sup> grade) for total class-level dropout. Unfortunately, it was not possible to make an accurate estimate of migration abroad-driven dropout (which may be greater than figures indicate) because schools didn’t hold dropout information, including on migration, for all the students who had dropped out.

The lowest academic loss rate, and therefore grade repetition and dropout rates, is reported in 4<sup>th</sup> grade as a possible consequence of families’ increased interest in 4<sup>th</sup> graders’ education on the one hand and of teachers’ somewhat more reduced demands in this final year of primary schooling on the other hand, both aimed at students’ completion of the respective educational stage.

**Table 1. Annual academic loss in primary education for the analysed cohort, by grade**

Grade/ school year	Enrolled students	Total academic loss		Dropout		Repetition		Other academic loss categories (incomplete academic year)		Dropout due to migration abroad, out of total cohort		Dropout due to migration abroad, out of total dropout	
		No	%	No	%	No	%	No	%	No	%	No	%
1 <sup>st</sup> grade 06/07	370	19	5.13	7	1.89	12	3.24	-	-	5	1.35	5	71.42
2 <sup>nd</sup> grade 07/08	351	46	13.10	11	3.13	35	9.97	-	-	3	0.85	3	27.27
3 <sup>rd</sup> grade 08/09	305	23	7.54	14	4.59	8	2.62	1	0.33	6	1.97	6	42.86
4 <sup>th</sup> grade 09/10	282	9	3.19	4	1.42	5	1.77	-	-	-	-	-	-



As far as lower secondary grades are concerned, academic loss rate varies between approximately 11% in 8<sup>th</sup> grade (the final year of this educational stage, with a lower percentage than the one detected in 4<sup>th</sup> grade) and more than 20% in 7<sup>th</sup> grade. The overall and category indicator values are significantly higher in lower secondary education than in primary education. The differences fall within the following thresholds: nearly 11% compared to 3% - the lowest values in 8<sup>th</sup> and 4<sup>th</sup> grades, and 13% compared to 20% - the highest values in 7<sup>th</sup> and 2<sup>nd</sup> grades.

Looking at academic loss categories, we also see that, unlike in primary education, the dropout rate is much higher than the grade retention rate (for example, 7 times higher in 6<sup>th</sup> grade – 12% dropout compared to 1.66% grade retention). The indicator values fall between nearly 8% (including students with incomplete academic year) – 8<sup>th</sup> grade and over 15% - 7<sup>th</sup> grade. In other words, dropout rates corresponding to lower secondary grades are approximately 3 to 6 times higher than the equivalent primary education values (1.42% - 4<sup>th</sup> grade and almost 5%, including students with incomplete academic year – 3<sup>rd</sup> grade).

As far as grade repetition is concerned, we see a quite reversed ratio between primary and lower secondary grades. Thus, in lower secondary education, the lowest and the highest repetition values are 3% - 8<sup>th</sup> grade and almost 5% in 5<sup>th</sup> grade, compared to 1.77% - the lowest value reported in 4<sup>th</sup> grade and 10% - the highest value detected in 2<sup>nd</sup> grade.

Dropout rate due to migration aboard is situated between 0.5% - 8<sup>th</sup> grade and 3.32% - 6<sup>th</sup> grade for the overall cohort, and between roughly 6% - 7<sup>th</sup> grade and 28% - 6<sup>th</sup> grade for total class-level dropout. As regards to an accurate estimate of the dropout rate due to migration aboard, like in the case of primary education we stay reserved (schools don't hold information about all the students who dropped out due to this cause).

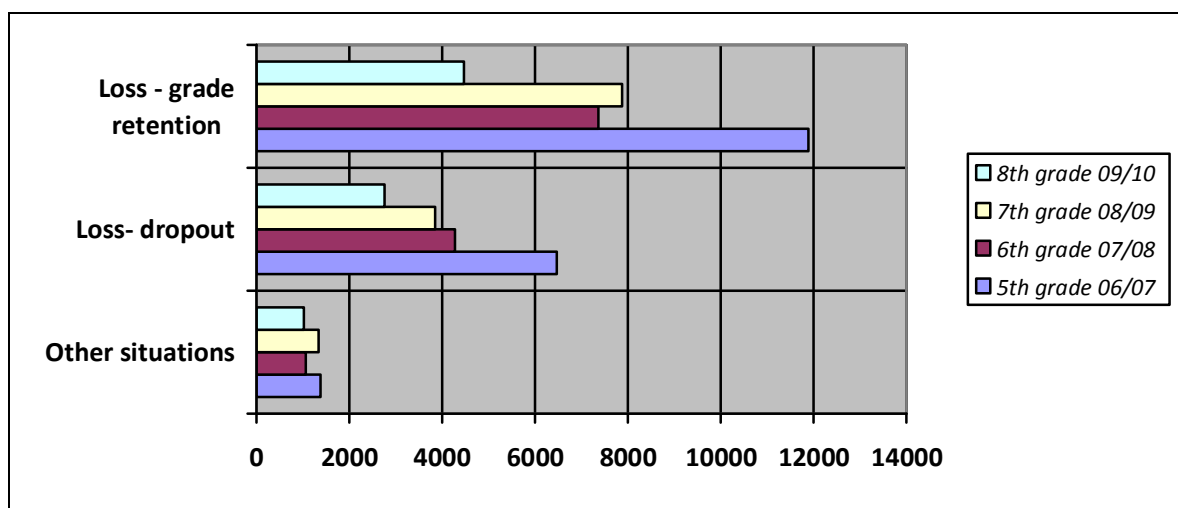
As for the lowest loss rate and of course the lowest repetition and dropout rates, we spot the same trend as in primary education: the lowest values of the respective indicators are reported in the final year (8<sup>th</sup> grade): 11.45% - total loss, 8.43% - dropout (including cases of incomplete academic year), 3% - repetition.



**Table 2. Annual academic loss in lower secondary education for the analysed cohort, by grade**

Grade/ school year	Enrolled students	Total academic loss		Dropout		Repetition		Other academic loss categories (incomplete academic year)		Dropout due to migration abroad, out of total cohort		Dropout due to migration abroad, out of total dropout	
		No	%	No	%	No	%	No	%	No	%	No	%
5 <sup>th</sup> grade 06/07	284	43	15.14	28	9.86	14	4.93	1*	0.35	7	2.46	7	25.00
6 <sup>th</sup> grade 07/08	241	33	13.69	29	12.03	4	1.66	-	-	8	3.32	8	27.59
7 <sup>th</sup> grade 08/09	208	42	20.19	32	15.38	10	4.81	-	-	2	0.96	2	6.25
8 <sup>th</sup> grade 09/10	166	19	11.45	12	7.23	5	3.01	2	1.20	1	0.51	1	8.33

\* Taken out of school for medical reasons



Academic loss, as a whole and by category (dropout, repetition), detected in researched schools differs significantly from the values reported at national level. Thus, the highest national academic loss value is two times smaller than the one recorded in the studied schools (5.27% - 2<sup>nd</sup> grade compared to 13% - also 2<sup>nd</sup> grade); the lowest values are however similar: 3.28% - 1<sup>st</sup> grade at national level and 3.19% - 4<sup>th</sup> grade for the schools in our study.

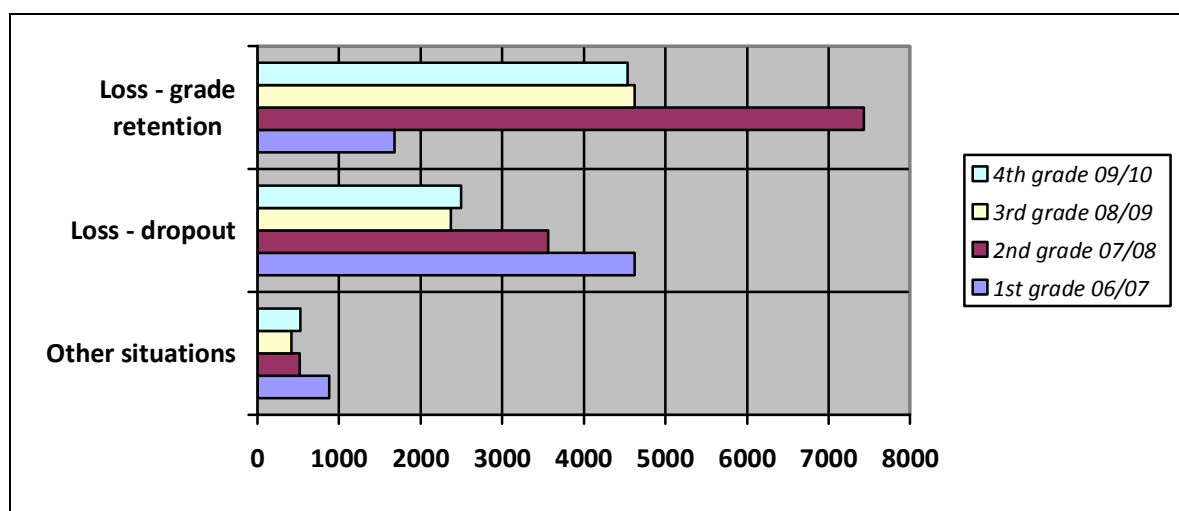
Dropout rates are slightly closer at the two levels of analysis in the case of 1<sup>st</sup> grade (2.11% - national level and 1.89% - researched schools) and 4<sup>th</sup> grade (1.19% and 1.42% respectively); still, they are twice as high in our panel as far as 2<sup>nd</sup> grade goes (3.13%, compared to 1.63%) and even four times greater in 3<sup>rd</sup> grade (4.59% and 1.11% respectively).

As far as repetition is concerned, the greatest differences are reported in 1<sup>st</sup> grade (3.23% - researched schools, compared to 0.27% - national average) and 2<sup>nd</sup> grade (9.97%, 3.40% respectively).

**Table 3. Annual academic loss in primary education at national level, by grade**

Grade/ school year	Students enrolled at the beginning of the school year	Total academic loss		Dropout		Repetition		Other academic loss categories (incomplete academic year)	
		No	%	No	%	No	%	No	%
1 <sup>st</sup> grade 06/07	219123	7183	3.28	4625	2.11	1676	0.76	882	0.40
2 <sup>nd</sup> grade 07/08	218597	11519	5.27	3567	1.63	7430	3.40	522	0.24
3 <sup>rd</sup> grade 08/09	212626	7416	3.49	2370	1.11	4625	2.18	421	0.20
4 <sup>th</sup> grade 09/10	209918	7567	3.60	2501	1.19	4540	2.16	526	0.25

Source: Data taken from /worked out based on NIS information, 2007-2011.



Similar to researched schools, the national average shows differences between the two educational stages, to the disadvantage of lower secondary level. Hence, as regards to total academic loss, whilst in primary grades it varies between 3.28% (1<sup>st</sup> grade) and 5.27% (2<sup>nd</sup> grade), in lower secondary grades the corresponding values are 4% (8<sup>th</sup> grade) and 8.58% (5<sup>th</sup> grade). The differences between the two stages also show up in relation to dropout and especially to repetition.

We also find differences related to indicator values, which get to an alarming level, between the two levels of analysis – the researched schools and the national average – highlighting the disadvantaged position of EPA schools in terms of academic loss. Thus, it may be noticed that in the studied schools total lower secondary academic loss reaches values that are 2 or 3 times higher than the national

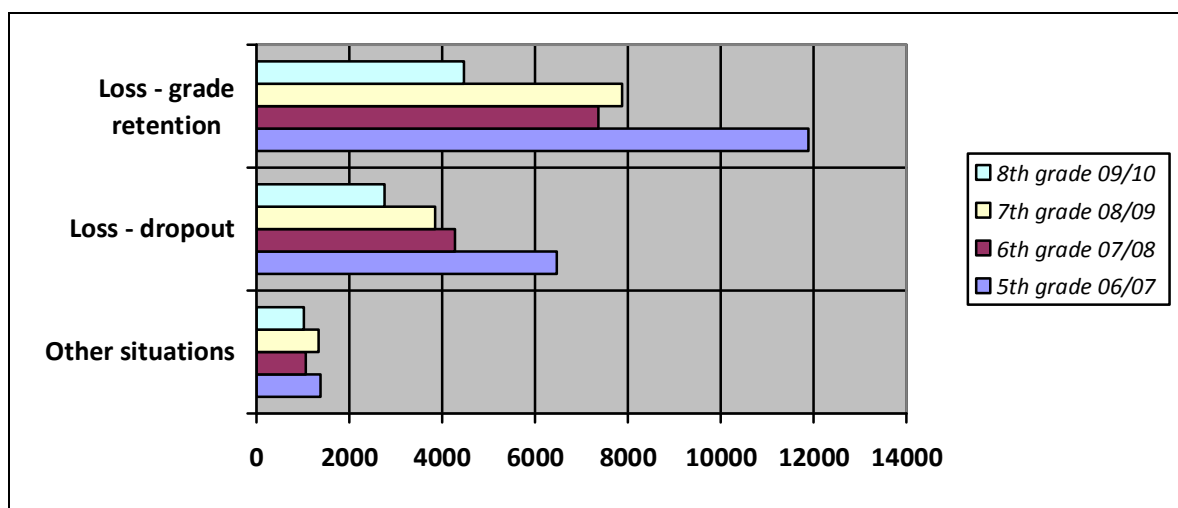
average, with the highest difference in 7<sup>th</sup> grade – 20.19% compared to 6.14%. The biggest gap is reported in relation to dropout rate, where the values are 3 up to 8 times higher than the national average (for example, in 7<sup>th</sup> grade, where this difference is the greatest, the dropout rate is 15.38% for the studied schools compared to 1.81% - national average).

As far as repetition rate is concerned, the differences identified are very small and sometimes – like in 5<sup>th</sup> and 6<sup>th</sup> grades – to the detriment of the national average. This finding proves that in the case of EPA schools dropout-related loss cases are much more frequent than repetition-related loss cases.

**Table 4. Annual academic loss in lower secondary education at national level, by grade**

Grade/ school year	Students enrolled at the beginning of the school year	Total academic loss		Dropout		Repetition		Other academic loss categories (incomplete academic year, expulsion)	
		No	%	No	%	No	%	No	%
5 <sup>th</sup> grade 06/07	230065	19738	8.58	6473	2.81	11891	5.17	1374	0.60
6 <sup>th</sup> grade 07/08	216586	12693	5.86	4280	1.98	7356	3.40	1057	0.48
7 <sup>th</sup> grade 08/09	212668	13064	6.14	3845	1.81	7878	3.70	1341	0.63
8 <sup>th</sup> grade 09/10	204969	8248	4.02	2758	1.35	4473	2.18	1017	0.50

Source: Data taken from/worked out based on NIS information, 2007-2011.



In the analysis on annual academic loss by category and by grade for the period of 2006-2010, we also compared the data we collected for “pure” cohorts to those reported by schools in NIS Statistical Questionnaires (SQ) and corresponding to

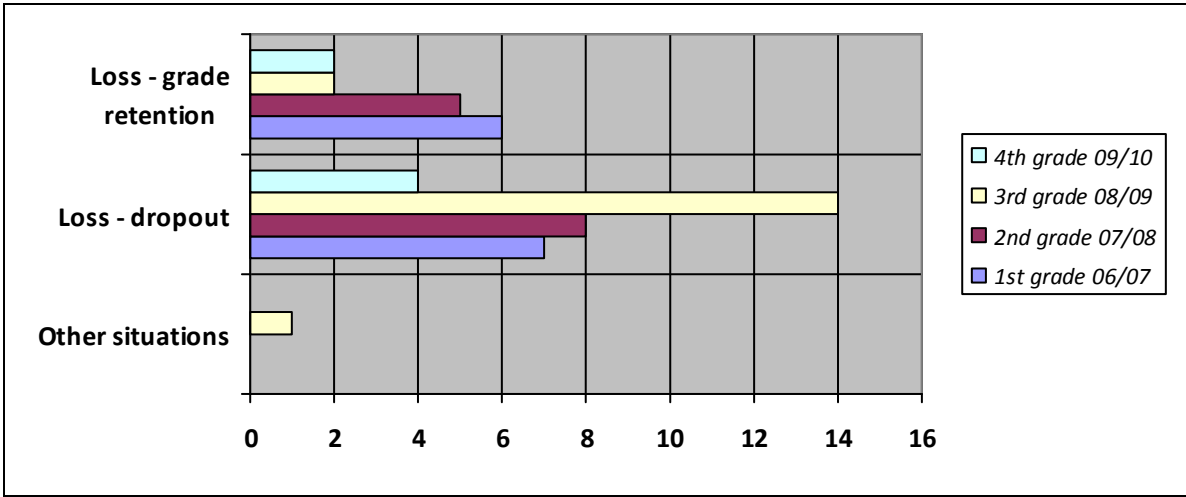
“apparent” cohorts. We need to mention that some correction was made for apparent cohorts – to get them closer to pure cohorts – namely we ruled out the transfers to the respective school or from it to another educational establishment during the school year. However, it was not possible to leave aside the cases of previous years’ repeaters and of transfers to the researched school at the beginning of the school year. Consequently, the data in question need to be compared with some reserve.

We also need to say that, as one of the five schools included in the research didn’t have the data reported in the SQs before 2009/2010, the comparisons were made only for four schools.

As the data below show, there are relatively significant differences between actual annual academic loss rates (worked out for the pure cohort), by grade, for the period of 2006-2009, and those worked out based on school-reported data. Some of these differences – which in primary education generally fall between less than 1 and 1.5 percentage points – are most probably the consequence of the distinction made between the two types of analysed cohorts (pure and apparent). Others however come from some distortions in the students’ end-of-year academic record data entered in gradebooks and in the NIS Statistical Questionnaires. An illustrative example in this respect is 3<sup>rd</sup> grade differences. So, whilst loss rates for the pure and apparent cohorts are very similar (6.85% and 6.61% respectively), dropout and repetition rates are significantly different by nearly 5 percentage points: the pure cohort has a dropout rate of 5.65% compared to 0.81% - the repetition rate, whereas for the apparent cohort the corresponding values are 0.39% and 5.45% respectively. Such a difference arises from the fact that in some schools or classes dropout is considered a cause to repetition and the student is catalogued as a repeater (*repetition through dropout*).

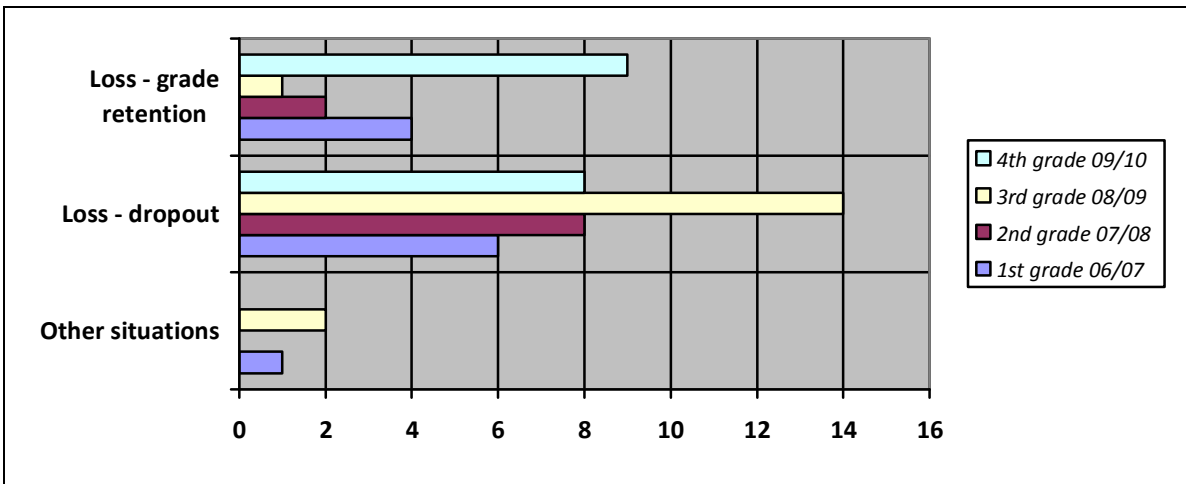
**Table 5. Actual annual academic loss rate in primary education, by category (“pure” cohort) and by grade**

Grade/ school year	Enrolled students	Total academic loss		Total dropout		Dropout		Dropout due to migration abroad, out of total dropout		Repetition		Other academic loss categories (incomplete academic year)	
		No	%	No	%	No	%	No	%	No	%	No	%
1 <sup>st</sup> grade 06/07	274	13	4.74	7	2.55	2	0.73	5	1.82	6	2.19	-	-
2 <sup>nd</sup> grade 07/08	261	13	4.98	8	3.07	5	1.92	3	1.15	5	1.92	-	-
3 <sup>rd</sup> grade 08/09	248	17	6.85	14	5.65	8	3.23	6	2.42	2	0.81	1	0.40
4 <sup>th</sup> grade 09/10	231	6	2.60	4	1.73	4	1.73	-	-	2	0.87	-	-



**Table 6. School-reported annual academic loss rate in primary education, by category ("apparent cohort") and by grade**

Grade/ school year	Enrolled students	Total academic loss		Total dropout		Dropout		Dropout due to migration abroad, out of total dropout		Repetition		Other academic loss categories (incomplete academic year)	
		No	%	No	%	No	%	No	%	No	%	No	%
1 <sup>st</sup> grade 06/07	278	11	3.96	6	2.16	1	0.36	5	1.80	4	1.44	1	0.36
2 <sup>nd</sup> grade 07/08	286	10	3.5	8	2.80	6	2.10	2	0.70	2	0.70	-	-
3 <sup>rd</sup> grade 08/09	257	17	6.61	1	0.39	-	-	1	0.39	14	5.45	2	0.78
4 <sup>th</sup> grade 09/10	251	17	6.77	8	3.19	5	1.99	3	1.20	9	3.59	-	-



In the case of lower secondary grades, the differences between the two analysed cohorts in terms of overall academic loss are slightly greater than for primary grades, getting to 4-7 percentage points. These differences are more emphasized in the main academic loss categories, namely dropout and repetition rate. For 7<sup>th</sup> grade, for example, dropout accounts for 17.42% in the pure cohort and for 1.35% in the apparent cohort analysed using the data reported by schools in the NIS Statistical Questionnaires. The ratio is reversed however when we look at repetition, as the indicator values are 4.49% (pure cohort) and 13% (apparent cohort). Such differences are due not only to the specificity of the two cohorts (pure and apparent), but also to errors/inconsistencies in the way data are recorded and reported as we have pointed out when referring to primary level as well.

**Table 7. Actual annual academic loss rate in lower secondary education, by category ("pure" cohort) and by grade**

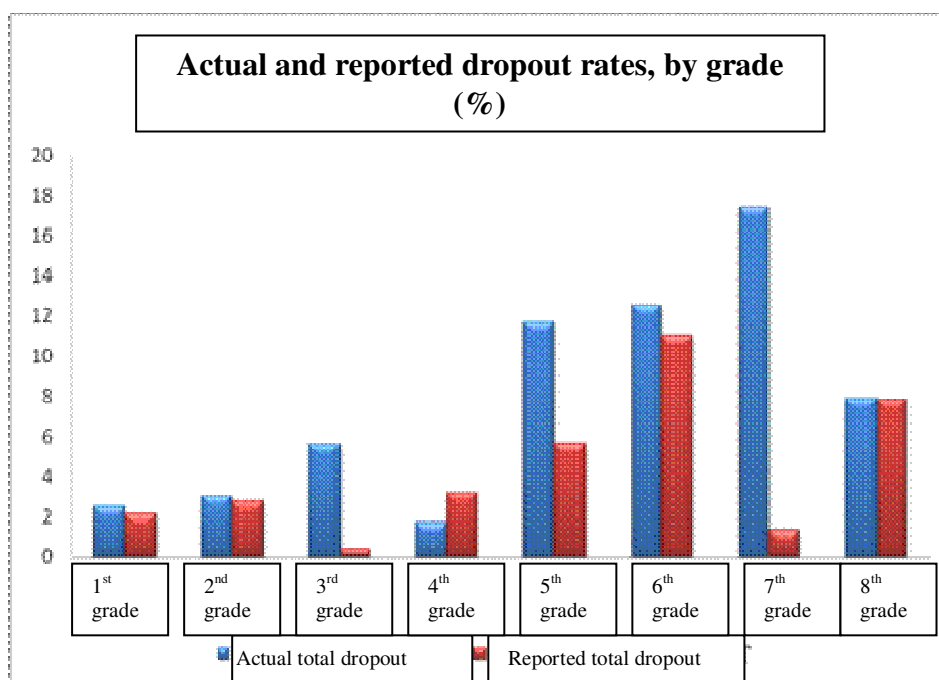
Grade/ school year	Enrolled students	Total academic loss		Total dropout		Dropout		Dropout due to migration abroad, out of total dropout		Repetition		Other academic loss categories (incomple te academic year)	
		No	%	No	%	No	%	No	%	No	%	No	%
5 <sup>th</sup> grade 06/07	240	32	13.33	28	11.67	21	8.75	7	2.92	3	1.25	1*	0.42
6 <sup>th</sup> grade 07/08	208	30	14.42	26	12.50	18	8.65	8	3.85	4	1.92	-	-
7 <sup>th</sup> grade 08/09	178	39	21.91	31	17.42	29	16.29	2	1.12	8	4.49	-	-
8 <sup>th</sup> grade 09/10	139	18	12.95	11	7.91	10	7.19	1	0.72	5	3.60	2	1.44

\* Taken out of school for medical reasons

**Table 8. School-reported annual academic loss rate in lower secondary education, by category (“apparent” cohort) and by grade**

Grade/ school year	Enrolled students	Total academic loss		Total dropout		Dropout		Dropout due to migration abroad, out of total dropout		Repetition		Other academic loss categories (incomplete academic year, “other situations”)	
		No	%	No	%	No	%	No	%	No	%	No	%
5 <sup>th</sup> grade 06/07	<b>264</b>	35	13.26	15	5.68	10	3.79	5	1.89	11	4.17	9	3.41
6 <sup>th</sup> grade 07/08	<b>245</b>	39	15.92	27	11.02	19	7.76	8	3.27	12	4.90	-	-
7 <sup>th</sup> grade 08/09	<b>223</b>	64	28.70	3	1.35	1	0.45	2	0.90	29	13.00	32*	14.3 5
8 <sup>th</sup> grade 09/10	<b>179</b>	30	16.76	14	7.82	13	7.26	1	0.56	12	6.70	4	2.23

\* In one of the schools, 25 students were documented as unschooled although they were enrolled in 7<sup>th</sup> grade.



The chart above shows considerable differences between reported and actual dropout data for the researched schools. The causes of such differences are further detailed in the report, but we have to mention here the fact that the previously

presented figures were worked out based on student cohort analysis and that they are expressed as a percentage of the initial total number of students enrolled in 1<sup>st</sup> and 5<sup>th</sup> grades.

The following example falls into the same category of problems related to the interpretation and registration of different cases: in one of the researched schools, 25 students enrolled in 7<sup>th</sup> grade at the beginning of the school year were documented as unschooled in end-of-year school records. A series of such examples and their leading causes are extensively presented in chapter 2.5.

### 2.3. Cohort Academic Loss

In order to establish and analyse cohort academic loss, the same sources of information were used as in the case of annual loss and the needed corrections were made just like in the case of annual academic loss estimates. Student cohort analysis over an entire level of education allows for a fairer guess to the size of the dropout phenomenon.

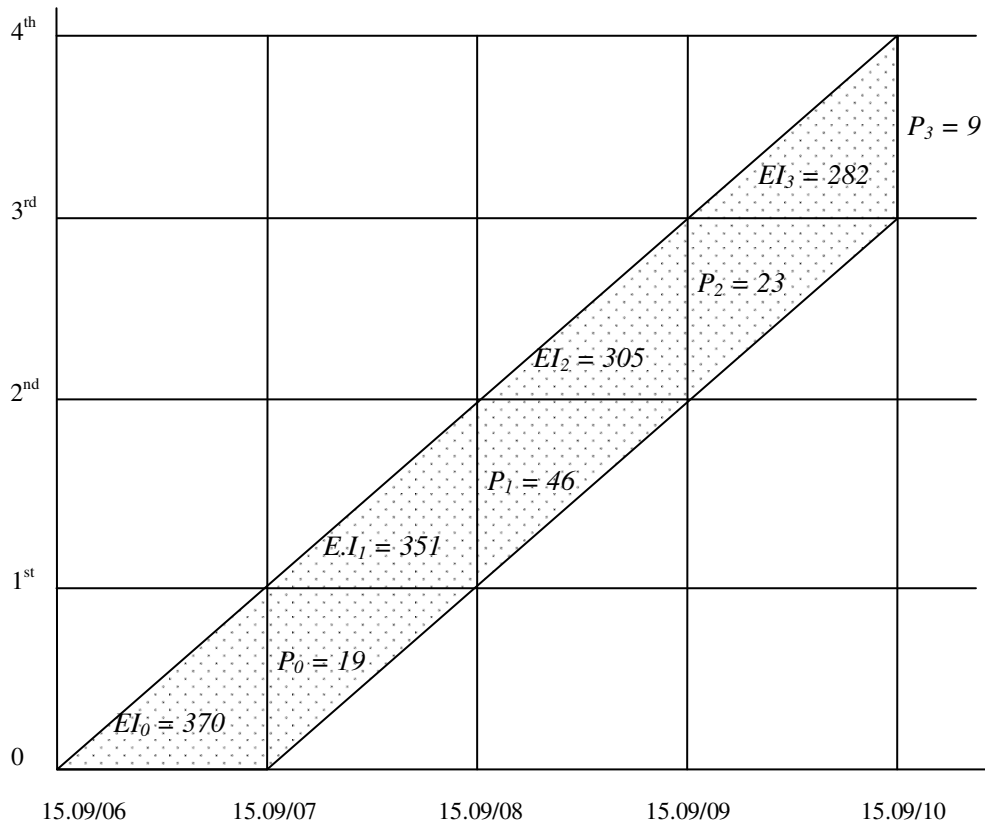
This method brought to light even more alarming proportions of the investigated phenomenon (see the table below). Hence, we see that in the case of primary students, the cohort enrolled in 1<sup>st</sup> grade during the 2006/2007 school year lost over 26% of its initial headcount over the four years of study corresponding to this stage. Out of these, 10% dropped out and more than 16% were retained during primary grades.

**Table 9. Cohort academic loss in primary education at the level of analysed cohort**

		Academic loss		Dropout		Repetition		Other academic loss categories (incomplete academic year)		Dropout due to migration abroad out of total cohort		Dropout due to migration abroad out of total dropout	
		No	%	No	%	No	%	No	%	No	%	No	%
Students enrolled in 1 <sup>st</sup> grade 06/07	370	-	-	-	-	-	-	-	-	-	-	-	-
4 <sup>th</sup> grade graduates 09/10	273	97	26.22	36	9.73	60	16.21	1	0.27	14	3.78	14	38.89



**Fig. 1. Primary education loss by cohort and grade**



$EI_0$ -  $EI_3$  - Students enrolled in 1<sup>st</sup>-4<sup>th</sup> grades

$P_0$ -  $P_3$  - Loss in 1<sup>st</sup>-4<sup>th</sup> grades

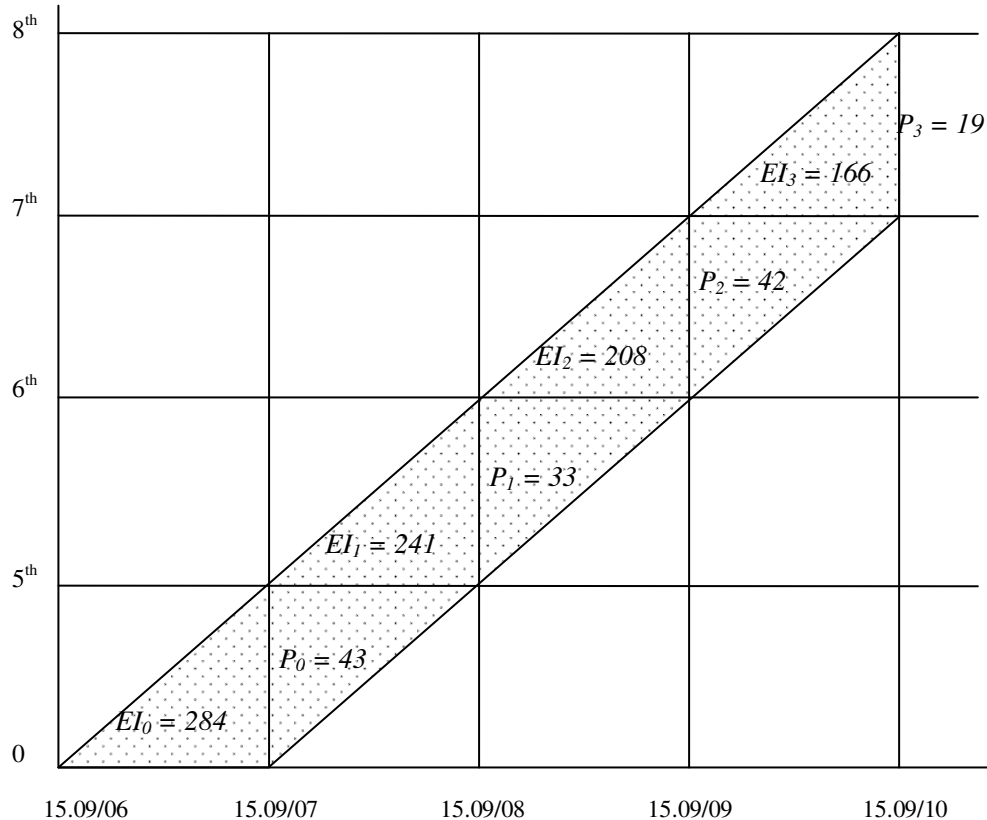
Academic loss reaches much higher values in lower secondary students (see the table below). In their case, total academic loss accounts for over 48%, out of which almost 37% stands for dropout and over 11% for repetition.

In comparison to primary education, in lower secondary grades the overall academic loss is almost twice as high, while dropout is almost four times higher; only when we look at repetition similar values are identified between the two educational stages: 10% in primary education and more than 11% in lower secondary education.

**Table 10. Cohort academic loss in lower secondary education at the level of analysed cohort**

		Academic loss		Dropout		Repetition		Other academic loss categories (incomplete academic year)		Dropout due to migration abroad out of total cohort		Dropout due to migration abroad out of total dropout	
		No	%	No	%	No	%	No	%	No	%	No	%
Students enrolled in 5 <sup>th</sup> grade 06/07	284	-	-	-	-	-	-	-	-	-	-	-	-
8 <sup>th</sup> grade graduates 09/10	147	137	48.24	101	35.56	33	11.62	3	1.06	18	6.34	18	17.82

**Fig. 2. Lower secondary education loss by cohort and grade**

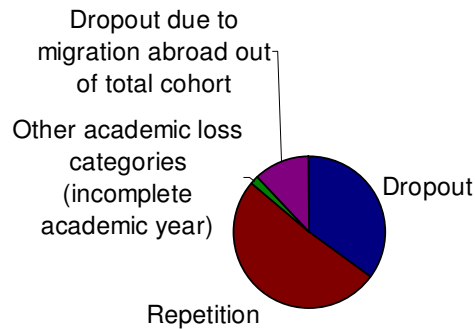


El<sub>0</sub>- El<sub>3</sub> - Students enrolled in 5<sup>th</sup>-8<sup>th</sup> grades

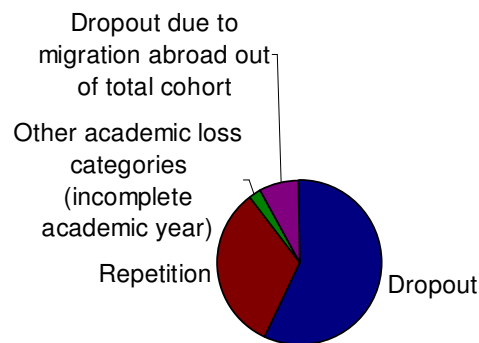
P<sub>0</sub>- P<sub>3</sub> - Loss in 5<sup>th</sup>-8<sup>th</sup> grades

The graphic comparison between the main academic loss categories at primary and lower secondary levels as further presented reveals some interesting variations.

### Cohort academic loss in primary education at the level of analysed cohort



### Cohort academic loss in lower secondary education at the level of analysed cohort



The comparison between the dropout rate identified for the student cohorts that we analysed and the rate reported at national level highlights significant differences, just like in the case of annual dropout. Such comparison should however be regarded with some reserve. Hence, the student group whose school progress we analysed stands for a “pure” cohort – the cohort of students who entered 1<sup>st</sup> grade and 5<sup>th</sup> grade respectively in the 2006/2007 school year, leaving aside repeaters from previous years or potential transfers from other schools which add up to the initial cohort. At the same time, having the necessary data at our disposal, it was possible to single out cases of dropout, repetition, migration, death, in other words the phenomena that make up the academic loss category and lead to a reduction in student headcount over school years.

At national level, dropout was assessed based on an “apparent” cohort which, unlike the “pure” cohort, comprised previous years’ repeaters, expelled students entitled to re-enrolment etc. In this case, it is more difficult to make the distinction between dropout-related loss, repetition-related loss etc. Apparent cohort-based dropout analysis brings however the needed corrections with regard to repetition, as annually each cohort includes the students from the same level (grade) retained at the end of the previous school year; this rules out any side effects deriving from repetition loss. Another correction used to estimate dropout is the exclusion of final year repetition rate (4<sup>th</sup> and 8<sup>th</sup> grades) which cannot be recovered because the analysis stops at the time when these grades are completed.

Despite the precautions related to apparent cohort analysis, this method still captures the dropout phenomenon more accurately, it gets closer to the estimate regarding its actual scale compared to the input-output method based on which the annual dropout rate is worked out. This is due to the fact that the method also includes the dropout cases reported in the transition from one grade to another, eliminating at the same time any distortions related to the way in which the data are documented. Possible corrections may be made through the exclusion of death cases which don’t have a strong weight on the data (over the period of 2006-2010, the mortality rate for the age groups 5-9 and 10-14 was 0.3‰<sup>1</sup>), and migration abroad for which we don’t have the necessary information to measure dropout related to this phenomenon. Many times, migration abroad implies however an actual dropout, which means that the migration phenomenon does not significantly reduce the values included in the table below, which values we could say stand for cohort-based national dropout.

As noticed in the case of annual academic loss and its categories, cohort dropout is much higher in the researched schools than the national average, both in primary and lower secondary education. Thus, in primary education, cohort dropout in the EPA network schools is twice as high as the national average – 10% compared to 5.58%, whereas at lower secondary level it is 3 times higher - almost 37% compared to 12.55%.

**Table 11. Cohort academic loss in primary education, at national level**

		Academic loss throughout the educational stage		4 <sup>th</sup> grade repetition		Dropout by educational stage*	
		No	%	No	%	No	%
Students enrolled in 1 <sup>st</sup> grade 2006/07	219123	-	-	-	-	-	-
4 <sup>th</sup> grade graduates 2009/2010	202351	16772	7.65	4540	2.07	12232	5.58

\* Including cases of death and migration.

Source: Data worked out based on NIS information, 2007-2011.

<sup>1</sup> Statistical Yearbook of Romania - 2009, NIS, 2009.

**Table 12. Cohort academic loss in lower secondary education, at national level**

		Academic loss throughout the educational stage		8 <sup>th</sup> grade repetition		Dropout by educational stage*	
		No	%	No	%	No	%
Students enrolled in 5 <sup>th</sup> grade 2006/07	230065	-	-	-	-	-	-
8 <sup>th</sup> grade graduates 2009/2010	196721	33344	14.49	4473	1.94	28871	12.55

\* Including cases of death and migration.

Source: Data worked out based on NIS information, 2007-2011.

As we did with annual academic loss and its categories, we compared the data on “pure” cohort loss with the ones resulted from “apparent” cohort analysis (data reported by schools in NIS Statistical Questionnaires). We have to mention that the comparative analysis was performed for 4 educational establishments because one of the five schools included in the research was unable to provide us the data reported in the NIS Statistical Questionnaire before the 2009/2010 school year.

Another possible explanation is the fact that, over the four years of each educational stage, the flow of the students entering 1<sup>st</sup> and 5<sup>th</sup> grades in the 2006/2007 school year knows important changes (which may be noticed from the Annex where these flows are presented using the data reported in NIS Statistical Questionnaires and school-based case studies), and thus it grows significantly apart from the pure cohort. These changes arise as a result of student transfers to the respective schools or from them to other educational establishments, of repeaters from previous years, of removal from school records of some students reported promoted at the end of the previous year etc. Consequently, the respective series of data should be compared with caution.

With these facts in mind, from the data included in the tables below we notice some differences between pure cohort loss, where the values are higher, and apparent cohort loss. This difference is reported both for primary level (approximately 2 percentage points – almost 18% compared to 16.13%) and for lower secondary level. As to the latter, the respective difference is almost three times higher than in primary education, reaching over 5 percentage points: approximately 50% compared to 44%.

At the same time, we notice the great gap between primary education cohort loss and lower secondary loss, which is also identified in the student cohort from the researched schools (5 schools) as well as in the national average.

**Table 13. Cohort academic loss in primary education at the level of “pure” cohort (4 educational establishments)**

		Academic loss		Dropout		Repetition		Other academic loss categories (incomplete academic year)	
		No	%	No	%	No	%	No	%
Students enrolled in 1 <sup>st</sup> grade 2006/2007	274	-	-	-	-	-	-	-	-
4 <sup>th</sup> grade graduates 2009/2010	225	49	17.88	33	12.04	15	5.47	1	0.36

**Table 14. Cohort academic loss in primary education at the level of “apparent” cohort (4 educational establishments)**

		Academic loss throughout the educational stage		4 <sup>th</sup> grade repetition		Dropout by educational stage*	
		No	%	No	%	No	%
Students enrolled in 1 <sup>st</sup> grade 2006/2007	279	-	-	-	-	-	-
4 <sup>th</sup> grade graduates 2009/2010	234	45	16.13	9	3.23	36	12.90

\* Including case of death and migration.

As far as dropout is concerned, the identified differences are more reduced and they show up only in primary grades – with approximately 1.5 percentage points more in the case of the pure cohort. Considering the precautions previously explained and the specificity of the two cohorts under analysis, these differences should however be relativized. Therefore, we may conclude that the method of student cohort analysis, the cohort dropout indicator respectively are less relevant for the purpose of the research, that is to identify potential distortions/lacks in the way data on academic loss and its categories are recorded and reported, while the annual dropout indicator seems more appropriate.

Student cohort analysis proves however its usefulness when establishing the actual value of cohort dropout indicator, which, as previously presented, varies in researched schools between 10-12% in primary grades and between 37-41% in lower secondary level; these values mean that nearly half of the students drop out by the end of 8<sup>th</sup> grade.

**Table 15. Cohort academic loss in lower secondary education at the level of “pure” cohort (4 educational establishments)**

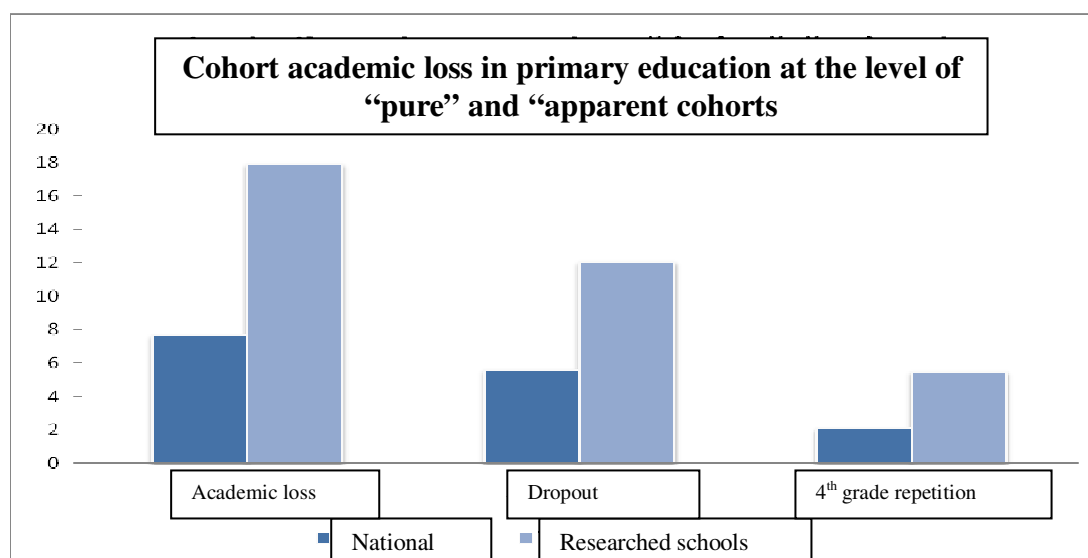
		Academic loss		Dropout		Repetition		Other academic loss categories (incomplete academic year)	
		No	%	No	%	No	%	No	%
Students enrolled in 5 <sup>th</sup> grade 2006/2007	240	-	-	-	-	-	-	-	-
8 <sup>th</sup> grade graduates 2009/2010	121	119	49.58	96	40.00	20	8.33	3*	1.25

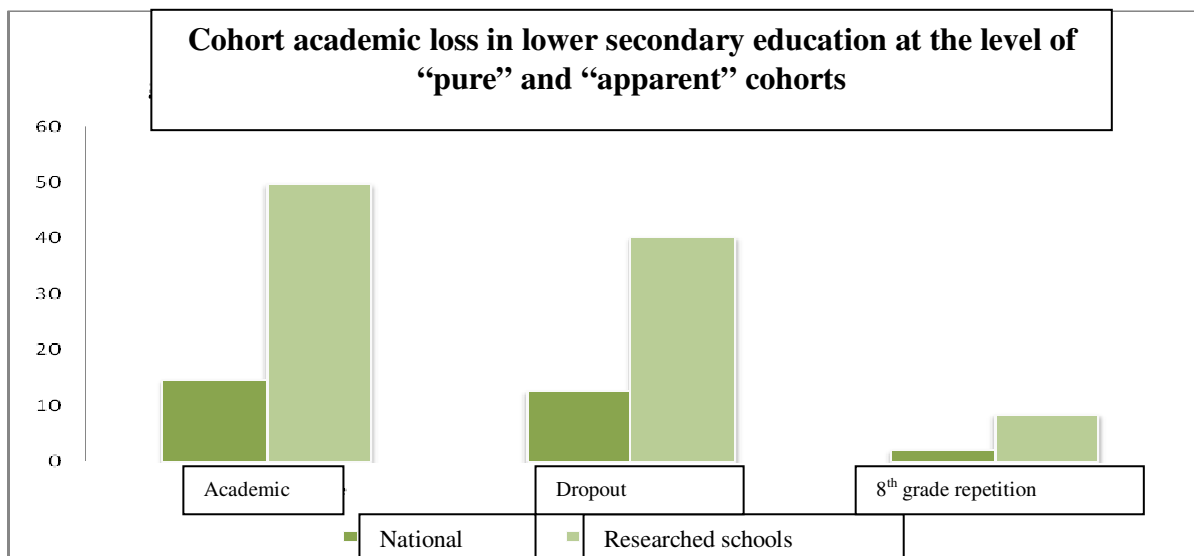
\* 1 student taken out of school for medical reasons

**Table 16. Cohort academic loss in lower secondary education at the level of “apparent” cohort (4 educational establishments)**

		Academic loss throughout the educational stage		8 <sup>th</sup> grade repetition		Dropout by educational stage*	
		No	%	No	%	No	%
Students enrolled in 5 <sup>th</sup> grade 2006/2007	267	-	-	-	-	-	-
8 <sup>th</sup> grade graduates 2009/2010	149	118	44.19	12	4.49	106	39.70

\* Including cases of migration.





Regardless the specificity of the analysed cohort – pure or apparent, the data illustrate the great gap in terms of cohort academic loss, especially dropout-driven loss, between researched schools and the national average both in primary and mostly in lower secondary education. This situation – setting a great challenge for the education system – demands specific measures of intervention, like scaling up the EPA system.

## 2.4. “Hidden” Dropout

“Hidden dropout” is based on one of the key hypotheses in the study regarding the fact that the researched schools show some distortions/lacks in the way the data related to academic loss (dropout, repetition) are recorded and reported, which lead to the alteration, more precisely to the diminution of the actual value of the respective indicators.

When comparing annual dropout rates worked out based on the data we collected for the pure cohort and those reported by schools in the NIS Statistical Questionnaire, certain differences were identified that, within the limits traced by the specificity of analysed student cohorts (pure and apparent), could point to the value of “hidden” dropout. The precautions that we have to take when interpreting the identified differences come, as we have already said, from the fact that in the apparent cohort there is a series of changes as a result of student transfers to the respective schools or from them to other educational establishments, of cases of repetition from previous years and others, which separates it even more from the pure cohort.

In primary education, “hidden” dropout thus estimated generally reports non-significant values of less than 1%. These low values, detected in 1<sup>st</sup> and 2<sup>nd</sup> grades, as well as negative values and non-significant values reported in 4<sup>th</sup> grade, are most probably generated by cohort differences and they are not necessarily a proof of “hidden” dropout. An exception is noticed in 3<sup>rd</sup> grade, where the “hidden” dropout value has been worked out to over 5%.



**Table 17. Hidden dropout estimate in primary education, by grade**

- as % -

	Total dropout	Dropout	Dropout due to migration abroad out of total dropout	Other academic loss categories (incomplete academic year)
1 <sup>st</sup> grade-2006/2007	+0.39	+0.37	+0.02	-0.36
2 <sup>nd</sup> grade -2007/2008	+0.27	-0.18	+0.45	-
3 <sup>rd</sup> grade -2008/2009	+5.26	+3.23	+2.03	-0.38
4 <sup>th</sup> grade -2009/2010	-1.46	-0.26	-1.20	-

In lower secondary grades, the worked-out indicator shows higher values of up to 16% (7<sup>th</sup> grade – “total dropout” category). Beyond the accuracy of the estimate – which is more or less close to reality – the hypothesis of “hidden” dropout seems to be confirmed at least in some schools or classes.

**Table 18. Hidden dropout estimate in lower secondary education, by grade**

- as % -

	Total dropout	Dropout	Dropout due to migration abroad out of total dropout	Other academic loss categories (incomplete academic year)
5 <sup>th</sup> grade-2006/2007	+5.99	+4.96	+1.03	-2.99
6 <sup>th</sup> grade-2007/2008	+1.48	+0.89	+0.58	-
7 <sup>th</sup> grade-2008/2009	+16.07	+15.84	+0.22	-14.35
8 <sup>th</sup> grade-2009/2010	+0.09	-0.07	+0.16	-0.79

Such a “phenomenon”, as resulting from the investigations carried out in the five schools, is owed to problems/distortions that come up in the way student academic record is entered in various school documents: gradebooks, Statistical Questionnaires, Matriculation Register. Here are some examples to illustrate such problems – that will be detailed in chapter 2.5.:

- Students who although don’t attend school at all or are highly truant and their academic record cannot be completed are not declared drop-outs, but they are no longer enrolled in the following school year;
- promoted students who don’t come back to school the following year but are still documented as promoted;
- one female student with incomplete academic year was documented as a “drop-out” in the section at the end of the gradebook and included in “other situations” in the statistical questionnaire; she is currently no longer enrolled and does not attend school, but the Register doesn’t mention her as a drop-out;

- students recorded as transferred to other schools although their file doesn't include any transfer application;
- Inclusion of some students in the "left school and settled abroad" category of the Statistical Questionnaire although for most of these students their leaving abroad is only temporary, not for good, and this should count as dropout etc.

From a qualitative perspective, in the same hidden dropout category could also fall the cases of students with very high truancy, who can hardly promote a grade and whose level of knowledge acquisition is very low. Many of them eventually drop out.

The types of identified problems, dysfunctions and distortions, that affect the accuracy and quality of the information on students' academic record and deform reality, make us assert that they are not specific only to the researched or EPA network schools, but they may arise to a greater or smaller extent in the overall education system.

## **2.5. Causes to Differences between School-Reported and Research-Found Academic Loss Rates**

We generally notice in the researched schools that Matriculation Registers make a clear and rigorous documentation of all students' academic records, for each grade, with all specifications related to their academic path (for example: records by study years, documents used for school transfers etc.).

Special problems arise in terms of gradebook entries. Thus, as regards **the completion of student individual record section** the following deficiencies have been identified:

- omission to enter dropout cases: children "disappearing" from the cohort, without any explanations in the gradebook about their transfer or other special individual situations; such cases are common, according to a principal's statement, to students who have not been re-enrolled in school (*nobody came to re-enrol them and they were no longer included in the next year's gradebook*) or to those who don't attend classes at all, usually in the second semester;
- partially completed academic record: for example, a student who was "failed" in the first examination session (June/July) and was listed with "incomplete academic year" even after the second examination session (August/September) without any explanations about him being promoted/retained or drop-out;
- "unschooling" cases even for the children who have already completed a certain number of grades, without any difference made in the gradebook between their academic record and that of students documented as "drop-outs"; in fact, the definition of unschooling seems to be applied the least accurately as this category seems to include children with a great number of absences, with incomplete academic year, drop-outs etc.

- Cases of students with two different specifications: for example, “drop-out” and “unschooled” at the same time;
- Students with a great number of absences documented as repeaters (e.g.: a student who went to school during the 1<sup>st</sup> semester and promoted, but stopped attending during the 2<sup>nd</sup> semester and in June/July s/he was declared retained because of his/her absences – but not with an incomplete academic year – and at the end of the gradebook s/he was listed as **retained** through **dropout**).

A series of problems have also been detected regarding the **completion of statistical data at the end of the gradebook**, more exactly:

- Unfilled sections or lack of correlation between different sections (for example, those concerning examination results/repetition/dropout or the total number of children enrolled);
- Lack of correlation between the data reported by semester;
- Registration of dropout as one of the reasons for repetition (as a sub-category of truancy);
- High number of students included in the “other situations” category: low attending students; students with incomplete GPAs/failed courses; students who left to other schools or abroad without asking for a school certificate etc.

The above-mentioned distortions, as well as other problems identified during the research generate significant differences between the real academic record of the students included in the analysed cohorts and the one reported by schools in **statistical statements (SQs)**.

Significant inconsistencies arise especially with regard to dropping out students. Two examples are illustrative in this respect:

- In the case of X school, according to the gradebook, in 2006/2007, 10 students dropped out (4 in primary grades and 6 in lower secondary grades). In the Statistical Questionnaire, only 4 cases are reported – all from 2<sup>nd</sup> grade, although the dropped out students were enrolled in 1<sup>st</sup> grade; as for lower secondary grades, no dropout cases are reported.
- In the case of Z school, for 2009/2010, the gradebooks of the four 4<sup>th</sup> grade classes which were consulted mention five dropout cases, while the statistical statement features none! Moreover, in lower secondary education (5<sup>th</sup> grade) the gradebooks mention 6 dropout cases, and the Statistical Questionnaire only two cases.

In order to illustrate the various inconsistencies, there is another case that needs to be pointed out, namely some students’ enrolment in the Second Chance programme the year after their dropout. Consequently, there is a significant difference between the value of this indicator as recorded in school documents and the one reported at school level. Moreover, this artifice actually means breaking the provisions laid down in the Organisation and Operating Rules for pre-university educational establishments and regarding:

- The minimum number of years before declaring a drop-out (Art. 68.5 – *The student who doesn't attend the day classes in a compulsory education grade level and is at least two years older than the age for the respective grade level is considered a drop-out. The drop-out may be enrolled, on demand, in evening classes, part-time or distance learning forms of schooling, for which separate classes shall be set up*).
- The minimum number of years before enrolling the student in the Second Chance programme (Art. 68.6. – *The youth who are more than four years older than school age may complete their basic education through second-chance programmes in line with the methodology of the Ministry of Education and Research*).

Our research points to the fact that one of the potential sources for the previously mentioned inconsistencies is the fact that statistical reports (SQ) are drawn up/filled out by the school registrar based on gradebook entries. As these are not always faithful to reality and as they contain various distortions, they influence SQ reporting; solely gradebook entries undergo internal checks, and the errors we have pointed to have definitely influenced the data entered in the statistical questionnaire.

At the level of the researched schools, we came across different SQ completion practices, one of which allowed for the elimination/diminution of discordances between gradebook entries and Statistical Questionnaire (SQ) data. Hence, in some schools, they fill out the Statistical Questionnaire for each class in accordance with gradebook entries, which makes it easier to harmonise the data. Using the Grade-Level Statistical Questionnaires, the School SQ is then completed. Still, although this practice seems to allow for an easier aggregation of data and their fine-tuning, we have noticed that it may also leads to more differences in the interpretation of the rules on how to fill out the SQs based on gradebook data.

In other schools, SQ reporting is made based on gradebook entries for various grades, which means that the differences between the data recorded in the gradebook and those included in SQ are more frequent.

**The explanations received from the school stakeholders that we talked to** regarding the contradicting facts/errors in student academic record registration varied a lot, from lack of attention when entering the data to having the approval of the Inspectorate or other authorities to break some of the provisions (for example, non-attending children's immediate enrolment in Second Chance programme). Here are the main causes of the various inconsistencies between school records and statistical statements, as well as of different distortions that school stakeholders mentioned:

- Unclear dropout definitions used: *many years ago, the students were declared drop-outs if they would no longer sign up for school in autumn; in recent years, this category has included the students who no longer go to school for 2-3 years*.
- Lack of clear criteria for including students in such a category, lack of harmony between definitions and rules for documenting school non-attendance (dropout, repetition, transfer to another school, moving abroad etc.) as required in various

documents: Organisation and Operating Rules specifications; gradebook instructions; guidelines on completing statistical questionnaires (*the statistical data collection methodology used by NIS is inadequate*), other statistical reporting requests from MERYS.

- Difficulties in documenting cases that result from high flows of children in the community (leaving abroad and repeated come-backs), more so when they leave during the school year without giving a prior notice to school.
- Lots of students who leave the respective school without communicating the reason for doing so (leaving abroad, transfer to another school etc.); in some cases however the school mediator intervenes and asks the parents or relatives to give a statement regarding the reason for non-attendance, based on which the school records are later completed (gradebooks, matriculation register).

The distortions identified with regard to students' real academic record and the inconsistencies between gradebook data and statistical statements made us look more into the causes to these issues. Hence, we identified two main problem categories as follows:

- Problems related to the context of the respective school ("local, school-specific issues") that may suggest the little importance given to these aspects by some educational establishments (also by the system). Some of them are:
  - Teachers' insufficient knowledge of relevant regulations. For example, a teacher who was in charge of checking the accuracy of gradebook data told us that the students were documented and declared drop-outs either in the same school year or after two years of not attending school or after 4 years (confusion with second chance programme requirements).
  - Little professional experience of the staff responsible for the statistical reporting of student academic data, with implications on reported data.
  - Personal interpretation of the regulation. An example in this respect, although not strictly connected to the issue in question but having potential repercussions, is the following: a principal says that many years ago a County School Inspectorate administrative enquiry was run in the school about the very high number of non-attending children. Following the enquiry, the school was charged with the teaching staff costs for one class as a sanction for documenting the children in that class only in their school records. Consequently, the principal declares that he now prefers to get sanctioned for breaking the school regulation and he does not allow children with a high number of absences during one school year to be automatically enrolled in the following school year. Such enrolment may be done only if the student's family gives a declaration on honour about the child's school attendance during the respective school year.
- "Methodological" dysfunctions/problems due to lack of clarity and precision in definitions, lack of procedures, insufficient harmonization/coherence between relevant definitions/regulations. In this category we included:

- Inaccurate/ambiguous definition of student’s academic status in gradebook sections. This refers to unclear generic information about how dropout sections should be completed (included in the 2<sup>nd</sup> cover gradebook instructions regarding gradebook entries) and unclear/ambiguous section at the end of the gradebook where the student’s end-of-year academic record is mentioned.

For example, with regard to repeaters the content of this section– that we reproduce below – suggests that dropout is one of the causes to repetition and not the student’s academic status. This allows for reporting a certain number of students as retained, while they are in fact drop-outs.

Repetition	Due to academic attainment	10
	Due to absences, of which due to:	5
	- health problems	1
	- dropout	3
	- other situations	1

- Inaccurate/ambiguous definition of student academic status in the NIS statistical questionnaire and its instructions for completion of data regarding “dropout” and “other situations”.

For example, in the document called *Guidelines on Completing Statistical Questionnaires SQ 2.1. and SQ 2.2. on Primary Education (ISCED Level I) and Lower Secondary Education (ISCED 2)*, at point II.b) SQ 2.2., it is mentioned:

“Chapters 1a and 1b – **Students by academic record in primary and lower secondary grades:** ..... .

“**Dropout**” refers to students leaving the education system because of: marriage, precarious financial situation, for agricultural work or work inside the household, and “**other situations**” includes students who were enrolled at the beginning of the school year and never attended school etc.”

- Lack of harmonisation/coherence between definitions/regulations on how to document school non-attendance (dropout, withdrawal, repetition, other situations etc.) as mentioned in: Organisation and Operating Rules (OOR), gradebook instructions, guidelines on completing statistical questionnaires (SQs). Therefore, we notice some data completion pitfalls resulting from the fact that the **statistical data** asked for in the NIS questionnaire regarding school participation/dropout are not coherent with those entered in the gradebook at the end of the school year and in the Matriculation Register. Moreover, the **rules** laid down for dropout in the applicable OOR are not correlated to the guidelines on completing the NIS questionnaire.

All these dysfunctions affect the accuracy and quality of the information on student academic record and distort reality not only at the level of the researched schools, but potentially at the level of the entire education system.

# 3

## Conclusions

The research on academic loss in general and on dropout in particular has led to a series of conclusions that we present hereinafter.

- The annual academic loss rate taken as a whole and by category (dropout, repetition etc.), as well as cohort dropout for primary students and especially for lower secondary students enrolled in the researched schools reach very high levels. As far as this is concerned, it is enough to mention the fact that over a quarter of the student cohort enrolled in 1<sup>st</sup> grade in the 2006/2007 school year and almost half of those who started 5<sup>th</sup> grade in the same school year fall into the academic loss category; of them, 10% of primary students and almost 37% of lower secondary students are drop-outs. Hence we can estimate that only half of the students in a cohort entering 1<sup>st</sup> grade manage to complete lower secondary level in research schools.
- Annual academic loss rates, and therefore those of its categories, as well as cohort dropout rate, estimated in our research, are significantly different than the corresponding values worked out at national level. Beyond the fact that the respective values come from observation units that are completely different in terms of numbers (national level – all educational establishments; the researched schools – only five schools), the differences found highlight once more the disadvantage of the schools that are part of the EPA network with regard to academic loss.
- Annual dropout rates and cohort dropout rate that we have worked out may be even slightly higher in reality. This hypothesis is supported by the fact that for most retained students repetition is caused by very high truancy, which actually qualifies as dropout. Hence, many cases were identified of students who weren't attending school almost throughout the entire year, and at the end

of the year they were declared retained (and documented as such in the data previously presented). In the following school year, they were in the same position and maybe at the end of that year they were declared drop-outs. Still, according to the regulations applicable during the reference period of the research (before the new Education Act entered into force), a student was considered a drop-out and could be declared as such if s/he was two years older than the theoretical school age for the respective grade level.

- Annual overall and cohort dropout rates estimated in the study differ from those reported by the researched schools as the dropout rates we worked out reach higher values.
- Estimated “hidden” dropout generally reaches non-significant values in primary school, somewhere below 1%; an exception is 3<sup>rd</sup> grade where it goes up to approximately 5%. In lower secondary grades, the indicator value is greater, reaching even 16% in 7<sup>th</sup> grade. Beyond the accuracy of the estimate – which is more or less close to reality – the hypothesis of “hidden” dropout seems to be confirmed. And, this is not specific only to the researched or EPA network schools, but it may arise to a greater or smaller extent in the overall education system.
- The differences found in the indicator values worked out based on the information gathered during the research and those based on school-reported data, namely “hidden” dropout, derive from distortions in the way student academic record is entered, as discovered when going through school records, which may generate a reduced school-reported dropout rate. These distortions – which don’t affect our data on academic loss and its categories, given that we have made the required corrections - are the following:
  - Students declared retained at the end of the year, while dropout is mentioned only as a cause to repetition. In other words, the share of drop-outs is falsely lower in school reports due to the fact that they declare a higher number of repeaters.
  - Exclusion from school records of students who drop out within two school years. This concerns students who pass a grade but are no longer featured in school records the following school year. These students – who haven’t been transferred to another school because, in general, this would be recorded as such – are not reported by the school in the dropout category (because they have passed the grade) although they no longer attend school. This is also one of the explanations to the high cohort dropout corresponding to an educational stage. Therefore, considering that the academic loss trend stays relatively constant during a certain period of time (4 years – the duration of primary education and 4 years – lower secondary education), the cohort dropout rate per educational stage should generally equal the sum of annual dropout rates for the four years of study (1<sup>st</sup>-4<sup>th</sup> grades, and 5<sup>th</sup>-8<sup>th</sup> grades respectively).
  - The lack of explanations in school records with regard to some students’ end-of-year academic record. This concerns the students enrolled in a grade



during a school year who don't attend school at all and are not declared repeaters or drop-outs at the end of the school year. In the following school year, they are simply left out of the gradebook (such cases could also explain the high level cohort dropout).

- After the retesting period of August-September, some children are documented as students with *incomplete school year*. This is the case of students who don't show up at examination resits in autumn, consequently they don't pass that grade, but they are not retained in the same grade for the following school year.

As concerns the differences between academic loss rates recorded and reported by schools and those identified during the research, the study established two main categories:

- Problems related to the context of the respective school ("local, school-specific issues") that may suggest the little importance given to these aspects by some educational establishments.
- "Methodological" dysfunctions/problems due to lack of clarity and precision in definitions, lack of procedures, insufficient harmonization/coherence between definitions/guidelines for completing the information/relevant regulations.

Taking into account these two categories of identified problems, affecting the quality and accuracy of student academic record data, and thus creating difficulties for adopting the most adequate educational policy measures, appropriate solutions for their improvement/resolution are needed.

# 4

## Recommendations/directions for intervention

This research has identified several areas of intervention that could help to cut back the distortions related to the way dropout is documented. For each of these directions, the following are needed:

- To harmonise the **dropout definition** used by different institutions: MERYs (in its Internal Rules and other school records) and NIS (in the methodology regarding the completion of statistical statements);
- To clarify some **operational aspects** regarding dropout and unschooling definitions within the context of the development of secondary legislation to the *Education Act No 1/2011*;
- To systematize **the main categories of dropout causes** (individual, family/social, school-related) in current methodologies;
- To collect information allowing to **break down the data** and to identify dropout **profiles** (for example, age, ethnicity, grade, academic attainment, truancy, family resources, engagement in lucrative work inside/outside the household, medical records/SEN etc.);
- To run a systematic analysis of the **truancy** phenomenon and to collect information that allows to identify truant child profile as this phenomenon is directly and strongly related to dropout;
- To introduce in educational statistics a statistical indicator on **dropout risk** (referring to non-attendance/low attendance during a school year);
- To harmonise **dropout data collection tools**, especially NIS statistical questionnaires, MERYs-required data and the data to be entered at the end of the gradebook;

- To develop more effective **control procedures** regarding full compliance of the methodology laid down for documenting dropout cases both at school and County School Inspectorate levels;
- To draw up **methodological guidelines** for those involved in dropout reporting at the level of educational establishments, which are to provide clear definitions and real examples of how to include drop-outs in different categories;
- To promote a **supportive climate** and **assistance measures** for schools facing this phenomenon and reporting it in official statistics;
- To draw up a **course framework** and a **training programme** for those involved in dropout reporting at the level of educational establishments, meant to facilitate the development of specific skills.

## ANNEX

### Student Academic Records in Researched Schools as Reported in NIS Statistical Questionnaires (SQ 2.2.)\*

#### *Primary Education*

Grade / school year	Enrolled students	New-comers by transfer	Students who left the school because of:						Students in end-of-year records. (15.09)	Prom.	Retained	Incomplete academic year
			Transfer to other schools	Moved abroad	Dropout	Death	Expulsion	Other situations				
1 <sup>st</sup> grade - 06/07	279	7	6	5	1	-	-	2	272	267	4	1
2 <sup>nd</sup> grade - 07/08	284	6	3	2	6	1	-	-	278	276	2	-
3 <sup>rd</sup> grade - 08/09	256	1	-	1	-	-	-	-	256	240	14	2
4 <sup>th</sup> grade - 09/10	251	2	2	3	5	-	-	-	243	234	9	-

#### *Lower Secondary Education*

Grade / school year	Enrolled students	New-comers by transfer	Students who left the school because of:						Students in end-of-year records. (15.09)	Prom.	Retained	Incomplete academic year
			Transfer to other schools	Moved abroad	Dropout	Death	Expulsion	Other situations				
5 <sup>th</sup> grade- 06/07	260	7	3	5	10	-	-	-	249	229	11	9
6 <sup>th</sup> grade- 07/08	245	7	6	8	19	-	-	1	218	206	12	-
7 <sup>th</sup> grade- 08/09	218	9	4	2	1	-	-	-	220	159	29	32
8 <sup>th</sup> grade- 09/10	181	-	2	1	13	-	-	-	165	149	12	4

\* Note: This does not include one school where data is not available for 2006/2007, 2007/2008, and 2008/2009.

ISBN 978-973-139-229-5

 Editura **ALPHA MDN**